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ABSTRACT

The booklet outlines Illinois' plan for delivering educational services to hearing impaired children. The history of the state's involvement with this population is traced from 1960. Guidelines are set forth for four major topics (sample subtopics in parentheses): identification and assessment (awareness of the problem, distinctions between deaf and hard of hearing, and the auditory-visual learning process); appropriate educational environment (problems in developing individualized educational programs, facilities and equipment standards, and postsecondary education for hearing impaired students); qualifications and preparation of personnel (recruitment, selection, and professional standards); and inservice training (instructional models and target groups for inservice training). Nine appendixes include a listing of state teacher training institutions with programs for teaching hearing impaired students, and a room acoustics evaluation for classrooms with hearing impaired students. (CL)

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HEARING IMPAIRED MANUAL: RECOMMENDED PROCEDURES AND PRACTICES

Illinois State Board of Education
Department of Specialized Educational Services

Funded by Part B
Education of the Handicapped Act
(Public Law 94-142)

Springfield, Illinois
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Illinois State Board of Education

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DEC 4 1980

FOREWORD

The Illinois State Board of Education is pleased to make available this edition of the *HEARING IMPAIRED MANUAL: RECOMMENDED PROCEDURES AND PRACTICES.* The purpose of this manual is to outline a delivery of services plan so that all hearing impaired children have available to them, from the earliest age possible, a free appropriate public education which emphasizes special education and related services to meet their unique needs; to assure the rights of children and parents; and to assure the effectiveness of this effort in helping these children become fully contributing members of their homes, their schools, and their communities.

The Illinois State Board of Education, Department of Specialized Educational Services, wishes to thank the Steering Committee on Hearing Impaired and its associated task forces for the development of this document. Special acknowledgement is extended to Dr. William Johnson, Superintendent, Illinois School for the Deaf, who chaired the Steering Committee on Hearing Impaired; to Vivian Tasker, former coordinator of the teacher training program for hearing impaired at Illinois State University, who assisted in the writing and editing of the document; and to the Illinois State Board of Education staff.

This manual is dedicated to hearing impaired children and youth of Illinois, their educators, and in memory of Hazel Bothwell, former State Assistant Director of the Hearing Impaired and Identification and Assessment Task Force Chairperson, who dauntlessly provided many hours of work and advice throughout the whole project. In her passing, the State of Illinois lost a true advocate for hearing impaired children.

Appreciation is extended to the following staff and management of the Department of Specialized Educational Services, Illinois State Board of Education, Gail Lieberman and Dr. Jeri Kelsay, for numerous suggestions and assistance in the final editing of the document, and Terry Bourret for his editing and coordination efforts throughout this project.

Donald G. Gill

Donald G. Gill
State Superintendent of Education

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HISTORICAL BACKGROUND

Recommended programs and services for hearing impaired children were developed not only from current legislative and policy provisions, but from review of previous studies and recommendations partially implemented. These arduous steps are the work of many parents and professionals who have struggled over a long period of time to bring into focus the true scope of the problem. Yet, hearing impairment continues to take its silent toll of the learning potential not only of children with known hearing loss, but also among the retarded, the learning disabled, children who cannot read, the gifted, the school drop-out, the emotionally disturbed, the expelled youth, and perhaps others with an unknown hearing loss. Currently, only about 3,000 Illinois hearing impaired children, both deaf and hard of hearing, are enrolled in special education programs.

In 1960 Illinois began to take a critical look at its programs and services to hearing impaired children.

In 1963 legislation specific to hearing impaired children was introduced increasing personnel reimbursements for multi-district programs for children ages three, four, and five. School districts responded dramatically and in one year's time, enrollments doubled from roughly 200 to 400 to meet the crisis of the rubella epidemic.

In 1964 the West Suburban Cook County area formed the first regional program through signed contracts among 100 school districts for a coordinated regional educational program for hearing impaired children, full-time supervision by a qualified educator of the hearing impaired and the establishment of a regional clinical center. Also, a special federal proposal was submitted and granted for a creative parent-infant program.

In 1965 the Illinois General Assembly passed HB 1407 for mandated special education programs and services. This statute appears as Article 14 of *The School Code of Illinois.*

In 1965 the Illinois Commission on Children began an interagency study on the hearing impaired which was completed in May of 1968. Recommendations were reported in the publication, *A Comprehensive Plan for Hearing Impaired Children in Illinois.* It recognized the critical need for clarification of the role of agencies, their coordination, and the need for a system of regional programs and services among school districts for the low-incidence handicap of hearing impairment.

In 1969 the Illinois Commission on Children gave assistance to the State by supporting Senate Bill 324, The Child Hearing Test Act. The

statute mandated hearing testing services through an interagency commitment between the Illinois Department of Public Health and the Illinois Office of Education with the Rules and Regulations governing the Act to be jointly written.

Also in 1969, to accelerate identification and follow-up services, the Illinois Office of Education allocated federal Title VI, B funds for regionally coordinated clinical services to the low-incidence handicaps of hearing impaired, visually impaired, and orthopedically impaired children. Most school districts in the State were attached to one of these regional programs and were represented administratively by their director of special education with a single school unit in the region serving as the administrative district.

In 1971 and again in 1972, the General Assembly allocated $200,000 each year for a needs assessment of hearing impaired children on a regional basis and for research on media equipment and related studies important to programming. Separate funds were also made available for needs assessments of visually and orthopedically handicapped children.

In the intervening years up to the present, the Illinois special education joint agreements and regional service centers have developed programs and services to varying degrees, financed primarily by federal funds. To date, there is no legislation in Illinois which obligates local educational agencies to align with regional service centers in order to provide necessary programs and services to hearing impaired children. However, it was the primary recommendation of the Steering Committee on Hearing Impaired (1978) and the Illinois Commission on Children (May, 1968) that local education agencies make every effort to cooperate in regional planning efforts for hearing impaired children and youth.

In 1977 the Illinois Office of Education established a Steering Committee on the Hearing Impaired to make recommendations and to propose procedures and practices relative to the development of comprehensive programs and services to the hearing impaired. The recommendations and best practices will be utilized in statewide inservice efforts and will provide critical reference standards for school administrators as they strive to enhance services to hearing impaired children and youth.

CHAPTER I

Identification and Assessment

AWARENESS OF THE PROBLEM

One of the basic priorities to improved special education services is an increased understanding of the very unique needs of hearing impaired children. The following information is an attempt to clarify misunderstandings which continually arise and which deter the development of necessary services.

HOW EARLY IS EARLY IDENTIFICATION?

The intent of state and federal law is to provide all children with EQUAL OPPORTUNITY to learn in keeping with their potential. In order to work toward meeting this equal opportunity goal, the education of the child deprived of hearing must begin in infancy. (Refer to Figure I - Education for the Hearing Impaired.)

Why Infancy?

Beginning with the child's own birth cry, the hearing infant is receiving the sound of human voices and as soon as someone responds to this cry, communication has begun. Soon the child is immersed in sound coming from all directions. Through hearing, sound comes from outside and inside, from upstairs and around corners; it is comforting and distressing and functions day and night.

During the first year of life, the child is intent on listening. Through sound he/she learns direction of sounds, speed, loudness, distance, and meaning; and learns to attend to some sounds and sleep through others. But most of all, he/she begins to respond to the human voice and with obvious pleasure sets about the complex task of learning native language. By about eight months of age, he/she can reproduce with considerable accuracy all of the vowel sounds of language, which are refined and expanded by endless variations of inflections and babbling practiced through most of his/her waking hours.

The hearing impaired child may miss all of this. This early deprivation may be so encompassing that it can interfere with the child's entire communication system, intake of knowledge and emotional well-being

EDUCATION FOR THE HEARING IMPAIRED
(Birth-21 years)

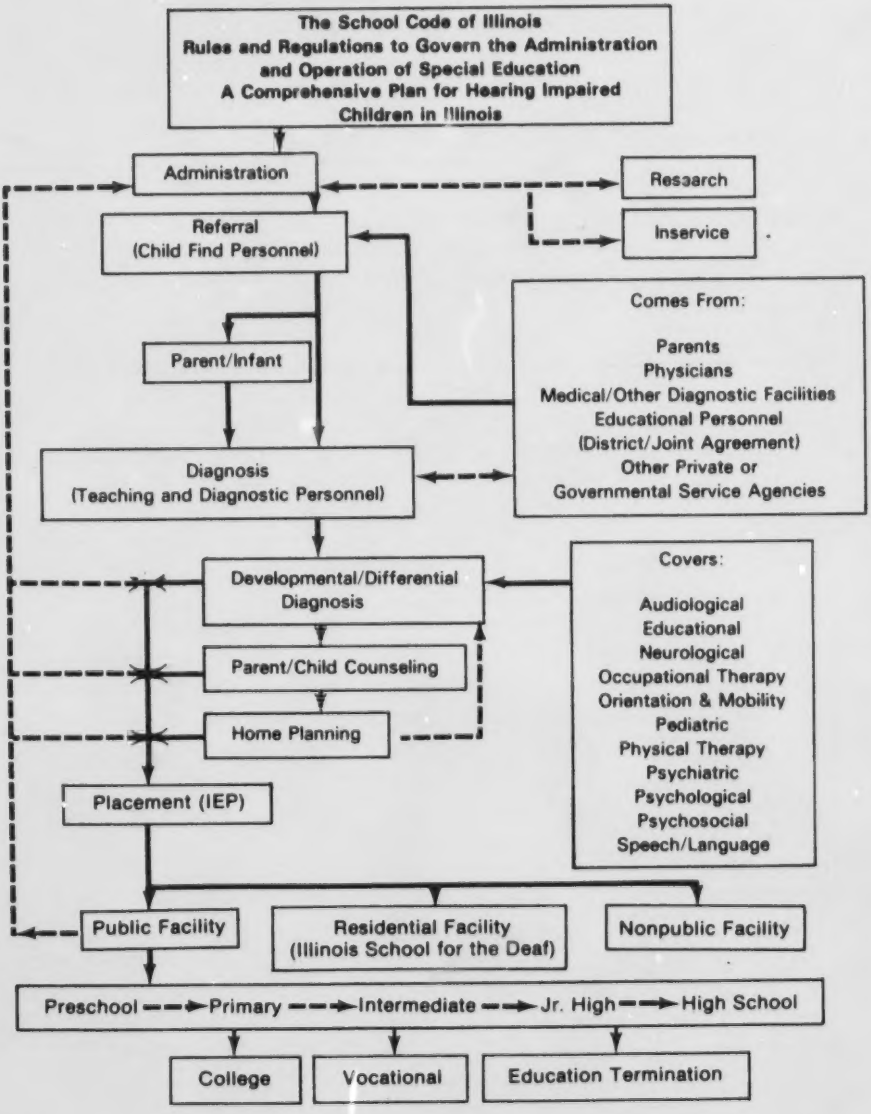

Figure I

which may, in turn, affect his/her entire life. Hearing loss gives no visible clue to its problem, and parents' suspicions of a problem are not readily confirmed by professionals. Delays in our service systems may actually be responsible for greatly escalating the detrimental impact on the child's living and learning experiences with family, peers and work associates for the rest of his/her life.

The tragedy is that in hearing impairment, whether congenital or adventitious, permanent hearing damage might be prevented or its negative impact on learning greatly reduced by early identification and skilled medical, audiological and educational management. NO CHILD IS TOO YOUNG FOR REFERRAL AND CARE. Many babies wear hearing aids without concern and are joyful participants in parent-infant training programs.

THE SEVERITY OF THE LANGUAGE HEARING PROBLEM

To demonstrate the severity of language deprivation and the difficulty of learning one's first language primarily through an alternate system, samples of the language of hearing impaired children of various ages are given below. While some hearing impaired children in our schools do achieve high levels of language acquisition and reading skill, others continue to have language and reading performance levels far below their intellectual potential.

Figure 2. Sample of Spoken Language of Deaf Children

Age 7 years: I see ball

Age 9 years: He has a dolls many

Age 11 years: I see a chair to school

Age 13 years: A little baby doll sat in a chair and they will go for walking.

Age 15 years: He needs to show another your homes famiiy.

Age 17 years: The boys wondering to put some furniture on the table.

Figure 3: Sample of Written Language of a 12-Year-Old Hard of Hearing Child

NEWS

My sis and boy progner (brother) in the church yester day night.

I (my) sister tamamie went to church thurs today

I watch to basball fame tomorrow. I will be good girl work I was clean in the room.

I will be a fun in the church they was good church fun today.

I was good friend happy I watch baseball tomorrow.

From these samples, the interference of hearing loss with the normal development of language becomes clear. Also evident is the breakdown in the educational processes of the language of reading, writing, thinking, speaking, concept formation and the acquisition of knowledge. (Refer to Appendix G for a comparison of performance results on hearing impaired children.)

Deaf Children

In referring specifically to "deaf" children, linguist David McNeill (1966) emphasizes that language learning should begin as early as possible in order to maximize the normal capacity for learning one's first language.

This language learning peaks at two to four years and declines steadily thereafter, possibly disappearing altogether as a special learning capacity by adolescence.

Hard of Hearing Children

The preceding statements relative to deaf children seem to have equal implications for a large number of hard of hearing children (those with partial hearing) who may also manifest serious gaps and confusions in the language learning process.

Because many of these children do have some language and communication, even though faulty, they are often considered just

slow or inattentive. Valuable time in care and appropriate programming is often wasted. It is the wise parent or teacher who first investigates the hearing and vision of any troubled child before considering other possible learning problems.

CLARIFICATION OF HEARING IMPAIRMENT

The generic term "hearing impairment" connotes a continuum of hearing loss from slight to profound. The definition quoted below is included in the *Rules and Regulations to Govern the Administration and Operation of Special Education*, Section 9-16.2.:

> "Hearing impairment - The child's residual hearing is not sufficient to enable him or her to understand the spoken word and to develop language, thus causing extreme deprivation in learning and communication. Or the child exhibits a hearing loss which prevents full awareness of environmental sounds and spoken language, limiting normal language acquisition and learning achievement."

HOW THEY HEAR

The Audiogram

An audiogram is a graphic representation of the range of sound we hear. While the assessment of hearing function is extremely complex and demands highly skilled personnel for evaluation and interpretation, the following basic information is important to all school personnel, many of whom are totally unfamiliar with such diagnostic information in the school files of children.

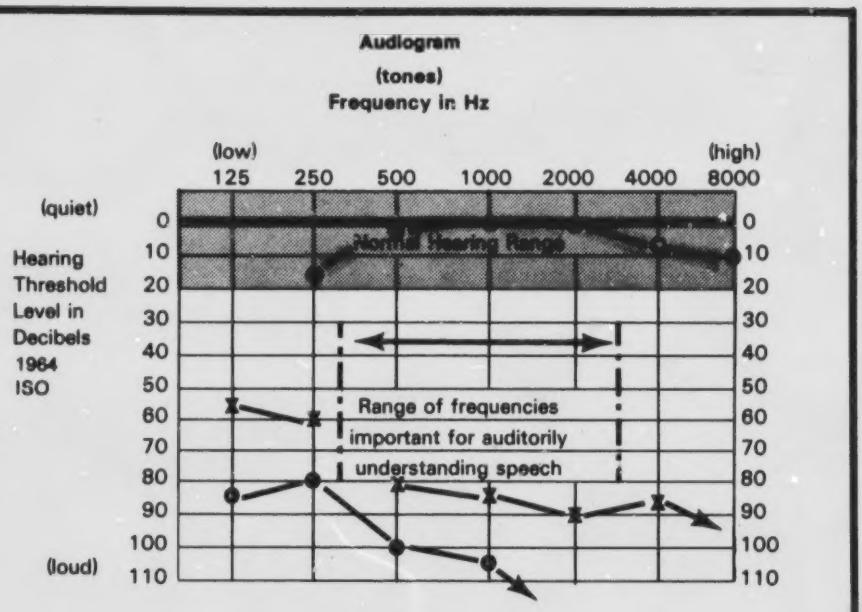

Figure 4

Tones or Frequencies

An audiogram shows horizontally the tones or frequencies, ranging from low to high, permitting us to hear the low tone of some car horns or the high whine of the jet plane.

Intensity or Volume

An audiogram shows vertically the intensity of sound ranging from minimal to very loud. The double black lines, "O", on the audiogram represent the physiological normal.

The Speech Range

Educationally, the most important frequencies (or Hertz) are 500 Hz, 1000 Hz, and 2000 Hz known as the speech

range for it is across this range that the human voice is predominately heard. Any damage to these frequencies may jeopardize how we hear inflection, babbling, words, and language leading to communication skill.

Threshold testing shows the degree or severity of the hearing loss for the frequency tested.

Threshold in Decibels (db)

Hearing screening in Illinois is conducted at twenty-five decibels (db) across all frequencies in order to identify suspected hearing loss in any child so that hearing difficulty can be treated and properly managed. Further tests are then recommended to confirm the hearing loss.

Behavioral Responses to Hearing Loss

Many children with different types of hearing losses have grossly different behavioral characteristics which confuse parents and school personnel. *Most common losses are*:

Those causing reduced "loudness (conductive)," and
Those causing reduced "clarity (sensorineural)."

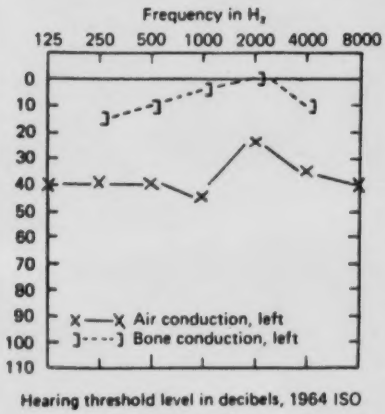
Frequency in Hz
125 250 500 1000 2000 4000 8000
0 10 20 30 40 50 60 70 80 90 100 110
X—X Air conduction, left
]----] Bone conduction, left
Hearing threshold level in decibels, 1964 ISO

Figure 5 (Loudness)

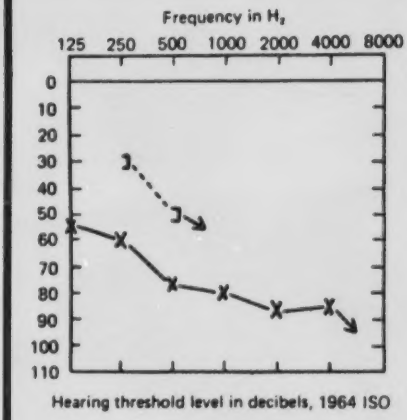

Figure 6 (Clarity)

Examples of Loudness and Clearness

Loudness (Conductive) - a middle ear problem. (See Figure 5.)

To individuals exhibiting outer and/or middle ear anomalies, speech reception is often reduced or muffled and may be obliterated additionally by a poor listening environment, i.e., extraneous noise and building architecture. This child is often thought to be a slow learner, inattentive, or lazy.

Approximately 70% of hearing damage that results in conductive hearing loss is preventable with early and effective medical care.

Clarity (Sensorineural) - a high frequency nerve problem. (See Figure 6.)

To individuals experiencing damage to the inner ear or the eighth cranial nerve, speech reception may be impaired because very specific speech elements are distorted or eliminated, such as sibilant consonants, i.e., s, sh, f, th, etc. Certain tones or noises, i.e., telephone, door slamming, airplane, etc., may actually be heard normally, but oral (speech) communication is misunderstood due to the garbled speech that results from this kind of hearing loss. A hearing loss of this nature is very perplexing to parents and to many professionals. Individuals exhibiting sensorineural hearing impairments are often the victims of tragic and erroneous recommendations.

Confusing Terminology Describing Degree of Hearing Loss

Terms often used in describing a hearing loss are "slight," "mild," and "moderate." These terms when applied to children can greatly misrepresent the severity of the problem. What parent or teacher would suspect a learning problem if told that a child has a "mild" hearing loss, that this child might only be hearing at a distance of three to five feet under ideal listening conditions, or that a child with a loss termed "moderate" may only hear conversational speech at a distance of one foot. It is imperative for parents, educators, and administrators to know that hearing impaired children should be evaluated, not only audiometrically, but through performance evaluations as well. This is necessary in order to ascertain each child's true functional ability levels.

The Auditory-Visual Learning Process

No matter what the child's hearing loss, he/she will probably experience a shift in the processes of auditory-visual learning which will require special remediation.

Speechreading - This skill is not automatically learned. It is an important and learned skill often taken for granted by many individuals who come in contact with the hearing impaired. Speechreading involves observing the speaker and supplementing the speech sounds the child does not hear or hear clearly by consciously or subconsciously assimilating mouth movements and facial expressions. This is a complex process necessitating in-depth knowledge and skill by the child's teacher:

> Over 50% of spoken language is invisible on the lips. Many other speech elements and even words are identical (homophenous) in appearance when spoken.

For example: note the visual likenesses of such simple words as "baby, bye-bye, mama, papa" and the invisible nature of a sentence such as "the child sat in his/her seat and studied," or the visual similarities of such auditorily dissimilar words as "red" and "green" in which the "g" is invisible and the other speech elements are similar in formation.

Auditory Training - Most hearing impaired children possess significant residual hearing capacity (Goodman, 1949; Heitzing, 1959; Eliott, 1967; Boothroyed, 1972; Hirsh, 1973) which should be maximally developed and monitored to aid in the learning process. In order to properly habilitate residual hearing in hearing impaired youth, auditory training strategies should be incorporated into each pupil's Individualized Education Program (IEP). A team consisting of an educator for the hearing impaired, an audiologist and a speech and language pathologist should be available in programs for the hearing impaired in order to develop auditory training objectives incorporated into IEPs.

Hearing Aids Are Not a Cure-All

Contrary to general belief, a hearing aid rarely, if ever, provides a normal hearing pattern to the wearer. Nonetheless, for many children it may indeed be a great asset. In all cases the following related factors are of primary importance when evaluating a child's need for a hearing aid: the severity and type of loss; age at onset; speech discrimination ability; and the time lag in effecting early medical, audiological and educational care. In no way does a hearing aid compensate for years of educational neglect. Illinois specialists are in general agreement that any child for whom a hearing aid is recommended must simultaneously receive audiological and educational training and monitoring in varying degrees.

Also of critical importance is the noise level of the child's room environment and the constant operation of the hearing aid.

Manual Communication - Many children with hearing losses may need the addition of the visual system of manual communication in order to aid them in the learning process.

Total Communication - In the past few years, there has been an attempt by most programs for the hearing impaired in Illinois to have available all communication systems commonly used by the hearing impaired. These systems are often combined, particularly for the deaf student who is generally a visual learner. This combining of communication systems is referred to as "Total Communication." "Total Communication" was developed on the premise that if all communication systems are made available in programs for the hearing impaired, each hearing impaired student will be provided maximum opportunities for achievement. Such programs also are seen to prevent total dependency on any single system of communication.

MISMANAGEMENT OF HEARING IMPAIRED CHILDREN

For years, specialists experienced in hearing impairment have expressed concern about the dangers of mismanagement of hearing impaired children. A New York hospital children's clinic reported that of one group of children referred with diagnoses of mental retardation, emotional disturbance or aphasia, sixty percent had unidentified hearing losses of educational significance.

Psychologists experienced with the evaluation of hearing impaired children warn of serious errors resulting in the inappropriate placement of hearing impaired children in programs for the mentally ill or mentally retarded.

An Illinois study in 1968 cited the following among the most frequently encountered misconceptions contributing to the mismanagement of hearing impaired children and youth:

> The hearing handicapped child should wait for school enrollment until the usual age.
>
> The problem of hearing handicaps is primarily one of speech.
>
> Educational retardation of hearing impaired children and youth justifies placement in classes for the mentally retarded.

The Scope of the Problem

The full range of the problem of hearing impairment in children is still unknown. Estimates indicate that about two in every 3000 babies in the United States are born deaf. In the Illinois Department of Public Health Annual Report in 1978, the number of children identified as meeting referral criteria for medical, audiological and educational scrutiny was 25,397 (Figure 7 - page 12).

Prevention of Mismanagment

The Rules and Regulations Governing the Administration and Operation of Special Education of 1979 includes the following first steps aimed directly at preventing mismanagement of hearing impaired children.

Rule 9.09-2: "For the child whose problems seem to be limited to the area of speech or language, a speech and language case study evaluation shall be conducted and an IEP developed. This evaluation shall include, but need not be limited to:

A hearing screening completed at the time of the evaluation or within the previous six months.

A review of the child's medical history and current health status.

A review of the child's academic history and current educational functioning.

NUMERICAL DATA FOR
TOTAL STATEWIDE HEARING SCREENING

AGE / GRADE	NUMBER SCREENED	NUMBER FAILED	NUMBER RESCREENED	NUMBER OF THRESHOLDS	THRESHOLDS: KNOWN CASES & MONITORING	NUMBER REFERRED
0-2	1,917	282	192	57	34	49
3	36,327	5,089	4,174	916	181	783
4	61,295	6,552	5,393	1,688	303	1,534
5	26,085	4,596	1,885	711	148	627
K	161,697	13,327	12,682	4,533	1,418	3,524
1	176,915	13,444	12,730	4,267	2,383	3,603
2	170,057	11,581	11,272	3,490	2,541	2,992
3	164,742	9,773	8,728	2,951	2,322	2,388
4	61,106	4,088	3,951	1,970	1,661	1,113
5	151,349	8,337	8,066	2,550	2,074	1,976
6	46,476	2,844	2,704	1,303	1,463	807
7	117,432	6,663	6,258	1,926	1,806	1,227
8	78,830	4,595	4,301	1,662	1,874	1,478
9	100,117	5,746	5,541	1,577	1,322	877
10	14,996	1,088	958	436	796	271
11	47,995	2,710	2,118	777	838	421
12	8,346	635	547	279	463	136
SP. ED.	49,479	4,334	3,966	1,205	2,080	1,524
TOTAL	1,465,281	105,664	95,466	32,288	23,687	25,397
OFFICE USE ONLY		7.2%	6.5%	2.2%	1.6%	1.7%

Figure 7
(Illinois Department of Public Health Annual Report for Fiscal Year 1978)

An assessment of the child's speech and language by a certified speech and language clinician.

An interview with the child.

The speech or language impaired child with additional handicapping conditions or educational deficits shall be referred for further evaluation."

Rule 9.09.3-e: "A vision and hearing screening, completed at the time of the evaluation or within the previous six months."

Rule 9.11-4: "If the child's receptive or expressive communication skills are impaired due to learning and/or language deficits, the district shall utilize test instruments and procedures which do not stress spoken language and one of the following:

Visual communication techniques in addition to auditory techniques.

An interpreter (oral or sign language) to assist the evaluation personnel with language and testing."

PROCEDURES - ADMINISTRATIVE STRUCTURE

The mandate for identification of handicapped children in Illinois is a triple mandate through:

The Child Vision and Hearing Test Act of the Illinois Department of Public Health in cooperation with the Illinois State Board of Education. This Act requires that all Illinois children through twenty years of age receive vision and hearing testing services for the purpose of identifying those with vision and hearing impairments so that such conditions can be tested and evaluated. Follow-up services should then be initiated as defined in the rules and regulations of both the Department of Public Health and the Illinois State Board of Education.

The Illinois Department of Public Health as the authorized agency to establish and administer the program of hearing/vision screening services.

The Illinois Department of Public Health and Illinois State Board of Education responsible for jointly developing rules and regulations governing standards, procedures, techniques and criteria for conducting and administering hearing/vision screening services and establishing standards for the training and certification of personnel.

A State Advisory Council on the Hearing Impaired to enforce the mandates of *The Child Vision and Hearing Test Act*, appointed by the Illinois Department of Public Health.

The regional hearing conservation committees at the local level consist of interagency personnel from related disciplines and agencies with strong representation from regional departments of health, school health and regional and local education personnel. The purpose of these hearing conservation committees is to pre-plan, recommend and monitor a program of hearing screening services, and to utilize to the fullest extent possible the local resources of their specified areas.

The Rules and Regulations Governing the Administration and Operation of Special Education, Article IX, requires that each district shall be responsible for actually seeking out and identifying all exceptional children in the district who are between the ages of 3 and 21. Procedures developed to fulfill this responsibility include:

Hearing and vision screening at regular intervals during the school career. 9.02-2

State Statutes as well as the regulations of Part B 94-142 - *The Education for All Handicapped Children Act of 1975*, which require that all children residing in the state who are handicapped, regardless of the severity of the handicap, and who are in need of special education and related services, be identified, located and evaluated. Moreover, a practical method must be developed and implemented to determine which children are currently receiving needed special education and related services and which are not.

PROBLEM AREAS IN IDENTIFICATION AND FOLLOW-UP

The identification of hearing impaired children under the former *Child Hearing Test Act* is now in its ninth year. While the administrative and procedural structures seem appropriate for screening and follow-up, there are still disturbing gaps in its implementation. Major problem areas of a broad nature are described as follows:

The effectiveness of the hearing testing services for hard to test children or children with additional handicaps needs reevaluation relative to standards and personnel conducting the testing.

The coordination of services to hearing impaired children in non-public school facilities needs to be enhanced.

EFFECTIVENESS OF PRESENT STANDARDS FOR HARD TO TEST CHILDREN

Concern has been raised regarding the testing equipment, the usual standard testing procedures and the personnel used for the hearing testing programs of hard to test children such as mentally retarded, the emotionally disturbed, mentally ill, the developmentally disabled, and certain very young children. Suggested remedial procedures include:

Expanding the responsibilities and inservice workshops for audiologists in testing multiply involved hearing impaired children;

Training public health technicians for certain activities under the guidance of a specially trained audiologist;

Monitoring the audiological components of programs for hearing impaired students placed in local education agencies, state facilities and those placed in private schools under the provisions of the *Rules and Regulations to Govern the Administration and Operation of Special Education.*

CHILD-FIND FOLLOW-UP PROCEDURES

In order to assure a comprehensive child-find follow-up system, case findings of the Illinois Department of Public Health, in conjunction with special education under the Illinois State Board of Education, should adhere to the following procedures:

Information from the point of identification (vision - hearing screening failures) to the designated special education director, and subsequently to the "educational screening team," should be appropriately transferred from the school nurse, public health nurse or technician. This information is usually provided on a standard pink screening form which should be forwarded to the special education director or child-find coordinator.

Educational screening required as follow-up to vision-hearing screening failure is primarily the responsibility of local educational agency child-find personnel. Various forms are used in this effort. The educational screening should take place as soon as possible in the follow-up process.

Medical follow-up is the responsibility of the school nurse or Public Health nurse. A standard Illinois Department of Public Health form is utilized for audiological and medical referrals. Additionally, otological/audiological diagnostic clinics are regularly held in

some regions. They include otological and audiological specialists, and the clinics are generally held periodically throughout the state with voluntary participation. The advantage to the otological/audiological diagnostic clinics is that a complete diagnostic assessment can be done in one day, and associated recommendations and coordinated information can also be obtained which may relate to specific handicapping conditions. Present funds and working staff are from the Illinois Department of Public Health (IDPH), Division of Services for Crippled Children (DSCC), and the regional school audiologist and educator of the hearing impaired. Such a coordinated diagnostic system is a viable step toward a true accountability service system.

PREVENTIVE MEASURES NEEDING CONSIDERATION

Steps should be taken by local education agencies and the state agencies to assure regular hearing and vision screening by carrying out the regulations requiring such screening at regular intervals.

Immunization for communicable diseases is of utmost importance regarding the prevention of diseases causing hearing loss in children, especially mumps and measles. Public schools cooperate as directed by State policy for children entering school at kindergarten age. This law should be extended to mandate immunization for all children enrolling in any school program for the first time, thus including any preschoolers it has.

A critical time period in learning for hearing impaired children is below age three. The Steering Committee on Hearing Impaired recommends interagency coordination with the eleven regional Public Health High Risk Centers for mothers and infants and local special education programs. *Senate Bill 389*: Authorizes the permissive provision of services to handicapped pupils "below age of three" and thus extends the original mandate.

Public schools serving hearing impaired pupils should strive to provide proper acoustic conditions for all hearing impaired children—both in special education classrooms and highly integrated classrooms. Amplification systems, either group or individual, should be regularly monitored and maintained by educational audiologists relative to repairs, standards and consumer protection. Major attention should be directed to this critical matter.

ASSESSMENT OF CHILDREN WITH UNUSUAL NEEDS

The Education of All Handicapped Children Act describes related services as "...such developmental, corrective and other supportive services, including speech pathology and audiology; psychological services; physical and occupational therapy; recreation; medical and counseling services; (except that medical services shall be for diagnostic and evaluation purposes only) as may be required to assist handicapped children to benefit from special education and includes the early identification and assessment of handicapping conditions in children."

Young hearing impaired children below age three need highly skilled diagnosticians and comprehensive evaluations. It is of increasing importance because of the early use of hearing aids and other unusual complications, such as early progressive hearing loss or multiple handicaps. Evaluations should emphasize:

- the specific nature of the handicap,
- the presence or absence of other handicapping conditions,
- the child's developmental level in general and, specifically, in language comprehension and usage,
- the child's interaction with his/her family.

Multi-handicapped hearing impaired children need indepth evaluation, often on a continuing basis for an indefinite period of time. Special interagency planning efforts are needed in this area, especially for behaviorally disordered and emotionally disturbed hearing impaired children and youth.

SUGGESTIONS TOWARD COORDINATION

Specific agreements should be prepared by the local education agencies in cooperation with the Illinois Department of Public Health and other local education agencies in order to develop viable procedures for screening and follow-up. The agreements should include appropriate referral procedures for the transfer of information on children requiring special education services.

Educational liaisons should be provided by the local education agencies with the responsibility for follow-up under Rule 7.02 of the former *Child Hearing and Vision Test Act* and State and Federal laws.

CHAPTER II

Appropriate Educational Environment

When considering the appropriate educational environment for hearing impaired youth, several factors should be considered prior to pupil placement. Such factors may include the nature of the hearing loss, degree of hearing loss, age hearing loss occurred, the communication mode needed, academic performance, social-emotional maturity, and language, speech and reading abilities which may be determined through the administration of appropriate diagnostic assessments. Moreover, special attention should be focused on the high cost of programs due to the special instructional materials, architectural design in buildings and classrooms, expensive equipment and related services needed by this low incidence handicapped school age population.

The educational mandate parameters of Illinois law and P.L. 94-142 with its rules and regulations must be viewed carefully and the problems which may be encountered closely examined.

In making decisions regarding placement in the appropriate "least restrictive environment," it is necessary to consider each child's needs, each alternative program, characteristics of each available facility, necessary equipment and materials and all needed related services. The unique needs of hearing impaired children require that all these factors be viewed simultaneously.

The mandate of P.L. 94-142 will be reviewed briefly as it relates to hearing impaired children and youth. The educational needs of the hearing impaired child in terms of environment and program will be discussed and alternative educational programming outlined and working program standards set forth.

WHAT IS PUBLIC LAW 94-142?

Public Law 94-142, also known as the Education for All Handicapped Children Act of 1975, mandated significant federal legislation which changed the federal government's role from one of offering limited grants, technical assistance and support to a role of expanded financial support and the establishment of the right to a public education for all handicapped children who require special education and related services.

Special education refers to specially designed instruction, at no cost to the parents or guardians, to meet the unique needs of a handicapped child, which includes classroom instruction, physical education instruction, and instruction in hospitals and institutions.

P.L. 94-142 specifically includes all handicapped children ages three through twenty-one years. Additionally, there is permissive provision for the use of federal monies for programs of early identification and screening for birth through three.

P.L. 94-142 has also been labeled a "Civil Rights Act for the Handicapped" since it provides seven civil right guarantees to all handicapped children and their parents. These are delineated as follows:

Right to an education.
Right to a free education.
Right to an appropriate education.
Right to the least restrictive environment.
Right to due process.
Right to confidentiality.
Right to non-discriminatory testing.

One of the unique and most important portions of P.L. 94-142 is the requirement for individualized instruction. The state education agency must assure that for each handicapped child receiving special education in the state, there is a written individualized educational program which is developed jointly with the parents and/or guardian of each child and reviewed annually and revised where necessary. The Act specifies who must participate in the development of an Individualized Educational Program (IEP) and what it must encompass (Section 9.18a of the *Rules and Regulations to Govern the Administration and Operation of Special Education*).

SPECIFIC CONSIDERATIONS FOR THE PROGRAMMING OF HEARING IMPAIRED CHILDREN AND YOUTH

The categories of deaf and hard of hearing or hearing impaired imply the use of audiological classifications in helping to determine a hearing impaired child's educational setting. Indeed, the amount of hearing loss is only one factor in determining the functional level of each "hearing impaired" person. All aspects of the individual should be viewed:

Degree of Hearing Loss

- Pure tone threshold
- Speech detection/reception threshold
- Speech discrimination ability in quiet, white noise, or competing speech
- Overlying conductive pathology

Linguistic Development

- Receptive and Expressive Language —
  - Syntactical development
  - Vocabulary development
  - Semantical development
- System of Communication —
  - Total communication
  - Aural/oral communication
  - Manual communication
  - Communication board
- Speechreading Skills

Academic Skill Level Development

- Reading
- Spelling
- Mathematics
- Writing
- Subject knowledge such as: science, social studies, etc.

Social Adaptation Skills

Psychomotor Skills

Self-Help Skills

Prevocational and Vocational Skills

All of the preceding factors must be considered before a determination can be made as to appropriate goals, objectives and program placement, i.e., self-contained, resource, itinerant, etc., (See Appendix I, the Cascade System Applied to Special Education). Most educators of the hearing impaired prefer that the generic category of hearing impaired should be utilized when referring to this area of exceptionality.

BASIC PROBLEMS IN THE DEVELOPMENT OF AN IEP FOR THE HEARING IMPAIRED CHILD

Least Restrictive Environment

Placement of hearing impaired children and youth in instructional settings which most resemble educational systems for hearing children is an important educational objective of professionals who work with the hearing impaired. An over-riding consideration, however, is the assurance of an educational program fully consistent with their needs and abilities as pupils and their aspirations as adults. The attainment of an appropriate balance between the advantages to the hearing impaired child of integration, possible "mainstreaming", and those gained from specialized educational settings requires careful assessment of the student and his or her program and, in the language of the law, "....the nature or the severity of the handicap." (P.L. 94-142 Section 612 (5).) If we are to justify separate instruction for hearing impaired children, we must assess and plan carefully for each child's ability to cope with the regular class environment, educationally and socially, as he or she gains life-long skills and abilities within it. Accurate understanding of the nature and severity of hearing impairment is fundamental to this judgement.

Hearing impairment, by its nature, is pervasive, and the severity of the handicap must be understood in the light of this quality. As a handicapping condition, it strikes at the heart of human development — communication. The pre-lingual hearing impaired child, in particular, is one whose hearing level is such that, even with amplification, he or she is often unable to understand language readily at a time of life when hearing children are rapidly mastering it. This communication handicap, initially both receptive and expressive, hampers the need and ability of the hearing impaired student to express language or to receive it according to accepted norms. It creates barriers to learning and to personal relationships. It often contributes to isolation and to cognitive delay.

Acceptance of the pervasive nature of hearing impairment in the child of pre-school and school age demands that we look with

care at whether "...education in regular classes with the use of supplementary aids and services" can be achieved satisfactorily and thus fulfill the intent of the law.

To determine what is the least restrictive environment for a hearing impaired child according to comprehensive educational, psychosocial, and communication needs, it is necessary to assess (a) the nature of the hearing loss and the communication barriers imposed by the disability, (b) curricular aspects of the program itself, (c) parameters of the unwritten curriculum (Activities for Daily Living), and (d) delivery of instructional services to the hearing impaired child.

Related Services

The hearing impaired child, in most instances, needs multiple "related services." Related service personnel should have a high degree of expertise in working with this population. Such personnel need to be trained or inserviced so they are cognizant of the communication systems, psychosocial problems and language development processes unique to hearing impaired children and youth.

The following should be considered as viable related services for hearing impaired children and youth:

Psychological testing,
Vocational evaluation,
Personal counseling/guidance,
Family counseling,
Medical services for diagnostic evaluations,
Interpreter services,
Communication evaluations (speech, audiology, manual language),
Visual perception training,
Auditory trainers, loans, services, repairs, etc.,
Tutorial services,
Orientation services,
Physical therapy/occupational therapy,
Transportation,
Parent education,
Music therapy,
Adaptive physical education.

Related services should be provided for each hearing impaired child based on identified and clearly stated individual needs. These should be clearly written into each child's individualized education program.

Related service personnel who should be available for assignment to hearing impaired programs are:

Supervisors,
Audiologists,
Counselors,
Speech and language clinicians,
School nurses,
School psychologists,
School social workers,
Adaptive physical education specialists,
Pre-vocational specialists,
Aides,
Interpreters,
Media specialists.

Additionally available on a consultative basis should be:

Otologists,
Physical therapists,
Occupational therapists,
Psychiatrists,
Ophthalmologists,
Neurologists.

The individualized education program conference should include appropriate related service personnel and teaching staff.

In order to meet the needs of hearing impaired youth, there should be regular coordination and communication between related service personnel, regular and special classroom teachers.

Appropriate Educational Environment

An appropriate educational environment should be based on the needs of the child. Pursuant to Section 9.09 of the *Rules and Regulations to Govern the Administration and Operation of Special Education*, a complete diagnostic evaluation must be completed in order to help determine the child's special needs.

The case study evaluation shall include, but not be limited to:

Audiological Evaluation;
Speech/Language Evaluation;
Social Development Study;
Psychological Evaluation;

Educational Assessment (when appropriate); and
Other assessments as deemed appropriate, i.e., otological, ophthalmological, neurological and orthopedic.

Once the diagnostic study is completed, a multidisciplinary conference and individualized education program meeting must be held to determine eligibility and develop the individualized education program.

When developing the individualized education program, all alternative programs should be examined. After an examination of program options (see Figure 8), a programmatic selection should be made which is consistent with the child's individualized education program with goals and objectives based on the needs identified in the evaluation.

Because of low incidence in this area of exceptionality and the high programmatic costs involved, the population in most local education agencies (LEA) is generally not large enough to justify all necessary program options. Most program options for the hearing impaired must be approached from a cooperative local education agency effort, i.e. joint agreement and/or regional. Even itinerant placement with itinerant services cannot be maintained cost effectively by most single local education agencies unless there is a sufficiently large pupil population. Inherent in all program options are necessary costs related to administration, related services, supervision, facility modifications, and specialized equipment, which make program consolidation prudent.

Factors to be considered relative to developing programs for hearing impaired youth:

A low student-teacher ratio for adequate communication and interaction commensurate with the *Rules and Regulations to Govern the Administration and Operation of Special Education*;

Inservice for regular classroom teachers relative to the needs of the hearing handicapped child;

Special emphasis on vocabulary and language development;

Separate and/or additional curricula in the areas of communication arts, speech and speechreading, auditory training and manual communication;

Program planning and individualized education program development;

Non-discriminatory testing and evaluation.

FACILITIES AND EQUIPMENT STANDARDS

Sensory deprivation limits the world of experience of hearing impaired children, and they are often obligated to rely more heavily on other sensory sources, e.g. vision. Educators in the past have specified 150 footcandles of lighting in classrooms for hearing impaired children (Clouser, 1968). Blackwell stresses that candlepower may be an obsolete tool for measuring light. He suggests that how lighting is used and how it affects the immediate environment is more important than candlepower. Clearly a prime consideration is proper lighting in a facility where children must basically rely on modes of visual communication, i.e. speechreading, writing, manual communication, etc. It must be remembered that, in some cases, fluorescent lighting causes auditory interference with electronic amplification equipment and may be the source of unpleasant ambient noise. Both of these objections can be overcome through the cooperation of lighting and sound engineers.

Although many hearing impaired children may be highly visually oriented, a large number of hearing impaired youth are visual learners, while others are auditory learners. Most of them do have some residual hearing which should be given greater attention through auditory training, provision of appropriate auditory equipment, and acoustic treatment of the learning environment. A properly designed learning environment can make it possible to use limited hearing with educational success. To accomplish this objective two distinct problems must be addressed: (1) the amplification of desired signals, and (2) the reduction or elimination of unwanted (ambient) noise. The acoustic properties of modern construction materials are well known by many engineers, audiologists, etc., and it is possible to design facilities with sufficiently reduced noise levels at realistic costs. Selection of the site is an important first step in building classrooms for the deaf. For example, highway noise at 500 feet away will generate sound signals at about 70 db, permitting 40-45 db of ambient noise to enter the classroom. Research reveals that ambient noise above 30 is distracting (Clouser, 1968). The acoustical properties of classrooms should be carefully worked out on a basis of noise entering from the outside, as well as sound generated within the classroom itself. Usually the noise outside the classroom is broken down into two areas—noise outside the building and noise inside the building. Classrooms vary considerably as does the acoustical treatment of classrooms.

It is alarming to note that some well-meaning, yet uninformed, administrators choose to place classes for hearing impaired children next to the band room or the gymnasium or other noisy sections of the building because he/she thinks it would distract them less than other children. Actually, the partially hearing impaired child, wearing amplification, may be completely interrupted and cut off from the teacher's voice or other audio input when the band begins to play (Clouser, 1968).

For noise generated within the classroom, the most practical solution is to reduce the production of noise. Many schools have installed carpeting and draperies to help reduce noises which reverberate off windows and walls. Additionally, rubber cushions may be placed under chair and table legs to help in reducing the noise level in classrooms.

It has been documented that, at any given time in a classroom situation, approximately one-half of student hearing aids can be malfunctioning (Zink, 1972; Northern et. al., 1972; Skalka and Moore, 1973). Auditory training units are frequently in the same condition (Matkin and Olsen, 1970a; 1970b; 1973; Sung, Sung and Angelelli, 1973) and further, poor classroom acoustics can limit the effectiveness of any appropriate amplification system (Ross, 1972).

Recommended minimal standards regarding facilities and equipment for the hearing impaired:

Life safety standards should be met throughout all school buildings including visual warning systems for any facility serving the hearing impaired.

All school programs receiving Federal financial assistance must be accessible in accordance with Section 504 of the Rehabilitation Act.

Acoustic characteristics, as specified by Niemoeller, 1968, should be met in all classrooms where hearing impaired students are placed.

New construction or remodeling of rooms, in which hearing impaired students may be placed, should consider special acoustic and lighting features.

Specialized equipment and a maintenance plan for this equipment should be provided in order to assure adequate services as described in student individualized education programs.

Adequate classroom size should be provided to accommodate special equipment needed by hearing impaired learners and for

experience-based learning and individualized instruction.

Public Law 94-142 mandates care and maintenance of personal hearing aids. Classroom amplification systems are included by implication, in order to meet the goals on the students' IEPs. Any special audiometric equipment should be closely monitored by appropriately trained staff to assure efficient operation.

POPULATION FOR PROGRAMMING

The *Rules and Regulations to Govern the Operation and Administration of Special Education*, Section 4.04, specifies maximum numbers of students for classroom placement. The task force finds these recommendations appropriate and reasonable. If there is a question relative to a minimum pupil population, the guideline to remember is that there should be a hearing impaired student population to support a cost effective and comprehensive program. Moreover, it is essential that in addition to academic placement, appropriate social and emotional considerations should be taken into account prior to placing hearing impaired pupils.

ACADEMIC AND VOCATIONAL STANDARDS

Academic standards for the hearing impaired should include the following:

Curricula shall be developed for each instructional program. They will include educational experiences adaptable to individual needs, interests, and/or abilities of each child in the instructional program. The curriculum shall have a consistent approach with a spiral development of each theme according to level of achievement.

These curricula shall be, developmental, sequential, goal-directed, clearly stated, and subject to continuing evaluation and revision.

Areas which shall have special curricula developed for hearing handicapped students are language/speech, activities for daily living, communication skills, auditory perception/discrimination, and adaptive behavior skills.

Curricula for all academic areas should include coordination with regular programs and adaptation to include the special information which hearing impaired students must be taught because of their handicap.

Vocational standards and programs should be developed, or current ones enhanced, in order to provide organized instructional experiences and training experiences for those hearing impaired students whose future occupational adequacy may be enriched by appropriate preparatory experiences. The following are recommended minimal standards:

Prevocational programs for individual students should be determined at multidisciplinary staff conferences.

At the secondary level, specific vocational education programs, training required, services, and length of the proposed program should be included in each pupil's individualized education program.

Community work experience, when part of the individualized education program, should occur during the day.

Students should receive educational credit for work.

Each student should be supervised by appropriate school personnel.

Prevocational programs should be coordinated with other vocational programs in local schools.

Schools should provide interpreters and/or tutors when necessary for students attending regular vocational classes.

All area vocational center programs should be made available to hearing impaired students when their individualized education programs indicate specific goals and objectives in the area of prevocational and vocational education.

Schools should strive to extend their programs of orientation to the world of work to all levels from pre-school through high school.

POST SECONDARY EDUCATION FOR THE HEARING IMPAIRED

There appear to be sufficient post secondary education and training facilities in and outside of Illinois. Hearing impaired students, who prefer to stay in Illinois for a post secondary education, may be referred to Northern Illinois University, Program for Hearing Impaired, DeKalb, Illinois; William Rainey Harper College, Hearing Impaired Program, Palatine, Illinois; or Waubonsee Community College, Hearing Impaired

Program, Sugar Grove, Illinois. More courses offered by the community colleges would be available if interpreters and tutors were provided. Out-of-state facilities, such as Gallaudet College in Washington, D.C., the National Technical Institute for the Deaf in Rochester, New York, and the Technical Vocational Institute at St. Paul, Minnesota, offer a wide spectrum of courses and have skilled, experienced counselors.

Proper selection of post secondary schools imposes on the high school counselor/supervisor the necessity of contacting available institutions to obtain their catalogues and requirements. The Illinois State Board of Education and the Illinois Department of Rehabilitation Services should be able to advise or provide such material. Career days provide additional information. Hearing impaired high school graduates need special and well-informed guidance regarding post secondary education options.

CHAPTER III

Qualifications and Preparation of Personnel Serving Hearing Impaired Youth

Educational programs for children with impaired hearing have been in existence in the United States for over a century and a half. The caliber of these instructional programs and the capabilities of personnel conducting such educational programs determine to a large extent the future quality of the lives of pupils served.

During recent years, significant advances have been made in understanding hearing impairment and its treatment, especially in the area of communication. These advances are influencing teaching methods, related service techniques, and college and university curricula relative to the preparation and competencies needed by educational personnel who serve hearing impaired youth.

RECRUITMENT AND SELECTION OF PERSONNEL

Recruitment

Illinois has provided special education programs for hearing impaired youth for many years and has utilized various approaches in recruiting teachers and related service personnel. One such approach, which was used nationwide by professional organizations, was to begin at the high school level to acquaint the students with this profession by holding conferences, giving participants direct contact with hearing impaired children in classrooms and distributing an assortment of brochures from various colleges and universities describing training programs. In addition, parent groups and other professional organizations have assisted greatly in recruitment efforts.

Selection

It is self-evident that teacher preparation programs and related service training can only be as good as the caliber of its students. Historically, training programs for teachers of the hearing impaired were usually located within established schools for the deaf, rather than in colleges and universities. Moreover, trainees studied under master teachers, and these teachers often exercised considerable powers of selection. Selection standards were

usually based on such subjective factors as personality and apparent aptitude for and dedication to the teaching of deaf children. Academic attainments and past professional preparation were scarcely considered. As colleges and universities became interested in the field, however, they began to establish their own programs for preparing teachers of the hearing impaired and to require that they meet the same standards as the teacher preparation programs in other areas of special education. Today, public and residential school systems seek teachers from colleges and universities, and state certification standards and requirements reinforce this practice. Related service personnel, i.e. speech and language pathologists, school psychologists, audiologists, and interpreters, pursue the university or college curriculum required for their specific service areas. It is felt by most parents and professionals currently serving the hearing impaired that additional practicum and preservice relative to the hearing impaired should be provided to related service students prior to graduation from college, particularly for those individuals with strongly expressed interest in working with hearing impaired youth.

The change in the location and sponsorship of teacher education programs has undoubtedly influenced selection procedures. In any program centered in a college or university, the standards and procedures for admission to the institution will prevail. These will vary from school to school, but, in general, will put emphasis on scholastic features and academic grades. Universities do not decry personal, social, and physical characteristics, but recogni[illegible] the difficulty of assessing them objectively and relating them to teaching and/or service effectiveness. Among the qualities which might be considered in the selection process are:

Academic record,
Intellectual ability,
Personal and social adjustment,
A commitment to teaching the hearing impaired,
Physical characteristics.

Of these qualities, the personal and social factors are the only ones which cannot be readily assessed. All applicants for entrance into training programs, i.e. interpreters, teachers of the hearing impaired, etc., should be personally interviewed by several of the staff members of the program. This is one way in which to judge each applicant's personal fitness for teaching the hearing impaired.

Physical appearance, although seldom a problem, could become

so if the applicant has a serious anomaly of the mouth and speech mechanism and/or range of motion and dexterity in the upper extremities. The teacher of the hearing impaired, especially in the preschool and elementary years, is required to be a model for correct speech production as he/she demonstrates and assists the young child to develop oral skills. An applicant who has defective speech or compensatory speech production should be referred for a speech evaluation and then reevaluated before acceptance into the training program.

PROFESSIONAL STANDARDS

In any college or university program which prepares teachers of the hearing impaired and/or related service personnel, i.e. audiologists, speech and language pathologists, psychologists and interpreters, the following generic objectives are considered important relative to serving exceptional children:

Related service personnel should have communication expertise commensurate with the child's needs, e.g. total communication skills, intensive language development training and training in understanding the unique psychological aspects of "hearing impairment." These same staff members should have acquired, either through formal training or experience under appropriate supervision, the skills necessary to properly assess and assist in developing the abilities of hearing impaired children. Moreover, inservice activities should be made available to this staff concerning the unique problems resulting from hearing loss.

The teacher training program should provide an understanding of the types and natures of exceptionalities among children and youth and associated educational ramifications.

The teacher training program should provide competency in individual and group management procedures appropriate to exceptional children such as:

Use of diagnostic procedures to identify the learning difficulties of the exceptional child.

The ability to develop and implement prescriptive programs based on diagnostic findings.

Knowledge of techniques utilized in behavioral control.

The teacher training program should provide direction for the development of social skills and attitudes to enable the prospective personnel:

To work effectively with other school personnel in coordinated programs for exceptional children.

To be sensitive to the needs of parents, as well as the impact of the child's environment upon his/her educational development.

The teacher training program should provide preservice opportunities in order to help students:

Develop the ability to interpret the educational program to parents, teachers, administrators and community groups.

Develop models of community interaction in working with exceptional children.

The teacher training program should provide opportunities to observe institutions and facilities concerned with education and career planning, health, and welfare to all types of exceptional children.

The teacher training program should provide early opportunities for supervised experiences with exceptional children as one means of determining the candidate's maturity for work with exceptional children.

The teacher training program should encourage student affiliation with appropriate professional groups and create an awareness of the referral agencies available for aid to exceptional children.

The teacher training program should provide course background and practicum experiences with nonhandicapped children on normal child development.

AREAS OF PROFESSIONAL COMPETENCY

This document is concerned with basic areas of knowledge and skills considered essential for the preparation of professional staff serving hearing impaired children. The recommendations, while setting forth high but realistic goals commensurate with the technologic and scientific knowledge presently available, also provide sufficient flexibility in organization in order to keep pace with new knowledge and experimentation in programming and the related service areas.

Educators of the Hearing Impaired

Basic to the overall education of hearing impaired pupils is the teacher of the hearing impaired.

The teacher of the hearing impaired must be certified by the Illinois State Board of Education in hearing impaired, except in Chicago where they are required to meet similar Chicago Board of Education standards, and should have the ability to:

Utilize appropriate communication systems;

Assess reading levels of hearing-impaired students;

Assess the academic skills of hearing-impaired students;

Design and implement educational programs which will be appropriate to the individual student's reading and academic abilities;

Orient the regular school staff and administration relative to the unique needs and learning styles of the hearing impaired;

Anticipate problems which the student may encounter academically or socially in his/her educational placement and be prepared to manage them appropriately;

Handle public relations for the program and enlist cooperation for regular school personnel and anyone else necessary for program implementation;

Communicate with each hearing impaired child at his/her language level;

Utilize appropriate teaching techniques relative to the remediation (enhancement) of speech, speechreading, auditory training, and language development.

Related Services Personnel

Essential to viable comprehensive programs for the hearing impaired are related services. In order to provide most hearing impaired pupils with a full delivery service system, we encourage local education agencies and regional service centers to work toward the organization of special teams in an effort to provide all hearing impaired pupils with direct and related services critical to their total development as individuals.

The following related service personnel, by category, are often directly involved in providing services to hearing impaired youth:

Interpreters:

Interpreters have emerged as a vital link in programming for the hearing impaired child. The right to an education in the "least restrictive environment" implies "mainstreaming," or programming with non-handicapped students to some or total extent, for many handicapped children. The increasing emphasis on programming for hearing impaired youth in regular classrooms has created a demand for trained interpreters. In the case of the hearing impaired child, many factors must be considered before the child is mainstreamed or partially integrated. If an individual educational plan calls for mainstreaming, the services of a skilled interpreter or interpreter-tutor may be necessary. Experience at the elementary and secondary levels indicates that non-certified professionals and certified professionals serving as interpreters are effective and help to reduce the barriers which many hearing impaired students face when attempting to participate in the "mainstream." An interpreter or interpreter-tutor must be made available to the individual hearing impaired student according to carefully projected needs in the least restrictive environment.

Interpreters for the hearing impaired should be certified by the Illinois Registry of Interpreters for the Deaf and must be appropriately skilled in order to:

Interpret or translate as reflected in the Individualized Education Program (IEP) for hearing impaired students in special and/or regular division classes;

Interpret or translate for hearing impaired students in extra-curricular activities;

Assist diagnostic personnel in communicating with hearing impaired children during evaluation situations;

Assist in effecting communication between regular division teachers and special program personnel;

Provide tutoring assistance to hearing impaired students if qualified and so indicated in the individualized education programs;

Conduct sign language inservice workshops for hearing students, teachers, other school personnel and parents.

Counselors:

Recently in Illinois, counselors with special training in hearing impaired have begun to appear in local education agency programs. At this time, Northern Illinois University is one of only a few institutions of higher education in the nation providing a graduate program in the area of counselor training in hearing impaired.

Counselors of the hearing impaired provide an invaluable related service to programs serving hearing impaired students. A definite strength in their training is that they become very proficient in communicating with the hearing impaired. Because of the uniqueness of this program, counselors of the hearing impaired are generally qualified to provide:

Individual counseling to hearing impaired students during the school day;

Parental counseling when necessary;

Assistance in multidisciplinary staff conferences for the purpose of determining program placements and the development of individualized education programs (IEPs);

Liaison assistance between agencies as the need arises;

Leadership with regard to providing technical assistance to parent groups and teacher inservice activities;

Guidance counseling to students in the areas of school program advisement and career orientation;

Student group counseling;

Technical assistance to regular school staff regarding the unique needs of hearing impaired students.

Audiologists:

The audiologist should have a knowledge of theory and practice in the following broad areas of competency so he/she can appropriately:

Coordinate hearing conservation programs in accordance with state mandates;

Provide audiological evaluations and interpret audiological findings to special education personnel;

Assist in the development of individualized education programs;

Select hearing aids for children and have a knowledge of the required instrumentation and test environment necessary for conducting this activity;

Conduct parent-child counseling on an on-going basis regarding audiological findings and hearing aid utilization;

Consult with school personnel regarding the selections, purchase, installation, maintenance, calibration checking and utilization of audiological instrumentation including audiometers, auditory training units and ancillary training or testing equipment;

Provide remedial assistance, i.e. provide advice relative to usage of amplification, development of auditory and visual communication skills, language development, and speech production for those children with hearing impairment;

Effect necessary follow-up and/or transition between medical-clinical facilities, other agencies and the child's educational program;

Conduct audiological consultation and inservice training for special education teachers, speech language clinicians, classroom teachers, administrators and other educational personnel.

The audiologist's competencies are not to be confused with the competencies of either the teacher of the hearing impaired or the speech and language clincian. Because of the pervasive effect of hearing loss upon total learning, a

team approach by the audiologist and the teacher of the hearing impaired, as well as by other professional personnel, is most desirable.

School Psychologists:

A properly certified school psychologist evaluating hearing impaired students should be able to:

Communicate with a hearing impaired child in his/her language mode (or use an interpreter);

Conduct appropriate psychometric and psychomotor evaluations of hearing-impaired children and youth;

Develop and implement any necessary behavior remediation program needed by the student;

Communicate diagnostic findings in functional terms.

Speech and Language Pathologists:

Certified speech and language pathologists should be prepared to:

Develop an individual diagnostic profile of the student's expressive and receptive language, including voice rhythm and articulation;

Use communicative diagnostic information to plan a remediation program;

Provide the necessary therapeutic program;

Assist the teacher of the hearing impaired, regular class teacher, etc., in the remediation program;

Share or relate the communicative diagnostic information in functional terms to parents, team members and paraprofessionals;

Provide technical assistance to parents and teachers to achieve ease of communication in various settings.

In addition to having the competencies indicated in the core program, it is important that professional personnel serving the hearing impaired should be knowledgeable in:

The various communication systems utilized by hearing

impaired students in educational and social environments;

Reading methods for the normal hearing child and hearing impaired;

The essentials of written language;

Speech development and techniques of speech correction including voice production, intonation, and phrasing in relation to communication;

The provision of structured experiences to develop skills in communicating in a variety of social situations;

Speechreading;

Mathematics, social studies, science, and other school subjects;

Human behavior and motivation, including knowledge of adolescent psychology, educational guidance, and counseling both for hearing and hearing impaired youth;

Techniques relative to the development of proper study habits and the interpretation of medical, psychological, and sociological reports;

An appreciation for the development of creativity which is essential at this level, both for purposes of self-realization and as a medium of communication;

Vocational education or activities which may be critical in terms of life goals.

Some professional personnel serving hearing impaired youth will teach or remediate at the secondary level in programs for the hearing impaired; others may be employed in educational situations where their primary responsibilities may be tutorial in nature in addition to providing specialized instruction in the communication skills. Therefore, it is desirable that professional staff at the secondary level have a major in the particular content area in which they expect to teach and a minor in a second content area.

Secondary school teachers or other professional personnel serving hearing impaired students should have knowledge of

the psychological, social, personal, and vocational needs of hearing, as well as hearing impaired adolescents.

In addition to possessing the competencies indicated in the core program, these teachers should be:

Skillful in developing, correcting, and improving communication skills appropriate to this level;

Prepared to guide the hearing impaired student toward the mastery of communication skills, both receptive and expressive, to meet vocational, instructional, and social demands;

Proficient in English and skillful in fingerspelling and the language of signs.

Personnel Working With Multiply Handicapped Hearing Impaired Children

Some hearing impaired children have severe concomitant physical, mental, or emotional disabilities, such as orthopedic problems, behavioral disorders, impaired vision, mental retardation, mental illness or disorders of language acquisition due to cerebral dysfunction. To realize their potential, such children should receive instruction from teachers or other professional personnel who have special preparation both in the education of the hearing impaired and in the area of the additional handicap(s). Unfortunately, the opportunity for special preparation in all of these areas is not always available or realistic. The recommendations outlined below apply to the preparation of teachers (special personnel) of some multiply handicapped children:

Specialized Preparation for the Teaching of MENTALLY RETARDED HEARING IMPAIRED YOUTH

In addition to the core curriculum for the hearing impaired, the prospective teacher of mentally retarded hearing impaired children should acquire the knowledge and skills of the teacher of the mentally retarded. These should include:

An understanding of psychological, social, physiological, neurological, and educational deficiencies and characteristics of the mentally retarded school-age population;

An understanding of the capacities and limitations of the mentally retarded, the setting of realistic academic

and vocational goals, and the effective use of teaching techniques and materials.

Further, the opportunity must be provided to synthesize this knowledge from the two fields of special education and to develop the ability to adapt and apply the information to the child who is mentally retarded as well as hearing impaired.

Specialized Preparation for the Teaching of Children with SPECIFIC LEARNING DISORDERS

In the population of hearing impaired are a number of children who present problems in language acquisition which cannot be explained on the basis of the auditory deficiency or generalized intellectual deficiency. Among this group, the language learning disability may be due to a variety of disorders of cerebral function, such as perception, i.e. visual, kinesthetic, tactual, auditory; of motor behavior, i.e. dysarthria, dyspraxia, spasticity; of symbolic reception, retention, recall, association, production, i.e. aphasia and dyslexia.

In addition to the core curriculum for the hearing impaired, the teacher of learning disabled hearing impaired children should acquire the knowledge and skills of the teacher of the child with learning disabilities. These should include:

Experiences in the recognition and evaluation of these various disorders;

Familiarity with the educational methods and techniques developed in the field of speech pathology, particularly the area of aphasia and dyslexia;

Awareness of the methods and techniques developed in the education of the learning disabled child.

Special Preparation for the Teaching and Management (Treatment) of Hearing Impaired Children and Youth Manifesting BEHAVIOR DISORDERS, EMOTIONAL DISTURBANCE, or MENTAL ILLNESS

At the present time few mental health programs are available for the treatment and education of behavior disordered, emotionally disturbed or mentally ill hearing impaired children and youth. Those programs which do have services

for this population are generally either outpatient or short-term inpatient in nature. Additional problems in these programs are the severe lack of appropriately trained staff and, in some cases, exorbitant charges.

Management of this particular population necessitates a joint interagency planning effort to establish and provide an appropriate continuum of program options.

Staff who may work with these students should:

Consist of a special team with diverse expertise in hearing impaired, behavior disorders, emotional disturbance and mental illness;

Be trained in working with the hearing impaired as well as being fully qualified in their specialities;

Have an understanding of the capacities and limitations of behavior disordered, emotionally disturbed and mentally ill hearing impaired children and youth;

Demonstrate the ability to communicate with a variety of communication systems, i.e. sign language, fingerspelling, etc., commonly used by the hearing impaired at various language use levels and in different environmental settings;

Be supervised by professionals experienced in working with the behavior disordered, emotionally disturbed and mentally ill;

Possess a comprehensive understanding of the unique psychosocial makeup of the hearing impaired. Moreover, it is essential that professionals working with the hearing impaired have an awareness of how these students process language.

Practicum experiences which provide staff opportunities to work with such students under the supervision of experienced professionals should be available and required.

CHAPTER IV

Inservice Training

The first three chapters of this document describe both mandated and recommended procedures for establishing services for hearing impaired students. The personnel who have the responsibility for implementing the recommendations must possess the necessary competencies to operationalize these "best practice" suggestions. Federal regulations under Public Law 94-142 and Illinois regulations require districts to develop and implement a comprehensive system of personnel development for general and special education services.

Unfortunately, the objectives, content, and strategies for delivering inservice training have often been selected largely on the basis of an administrator's, supervisor's, or a committee's subjective perception of staff needs. This kind of decision making may or may not be appropriate to the actual inservice sessions desired by program staff. Staff may appear disinterested and develop attitudes of resentment toward inservice activities.

The purpose of this chapter is to present suggestions for planning and delivering inservice activities which will be viewed as helpful and appropriate by the staff for whom they are intended. More specifically, this chapter presents suggestions for:

Fixing the responsibility for planning inservice activities,

Identifying the inservice needs of target groups and individual staff members,

Planning inservice training programs,

Delivering inservice training to different target groups, and

Evaluating the effectiveness of inservice training efforts.

RESPONSIBILITY FOR PLANNING

An open communication process is the foundation for relevant inservice planning and cooperation. This includes planning inservice for children, parents, teachers, related service personnel, administrators, university personnel, and Illinois State Board of Education staff. The responsibility for planning inservices for a particular target group should rest with the target group themselves, their administrative

superiors, and those they serve. If the personnel who have the day-to-day responsibility for a particular task have input into the decision-making process of planning inservice programs, it will secure their support and cooperation. It will also enhance the likelihood of follow-through and the program's success.

It is suggested that each local school district, joint agreement, or other service agency form an inservice team whose membership consists of people who are knowledgeable and interested representatives of target groups and a mixture of educators, administrators, parents and community members. Team members should possess the ability to communicate with members of the target groups. The role of this inservice team should be to organize, facilitate, and coordinate inservice efforts. The team, however, would not necessarily conduct the training.

There are two ways to establish an inservice team. One alternative is to establish a centralized team for an entire joint agreement. This system would facilitate uniformity of effort, funding, organization, and timeline development. This team might have the disadvantage of necessitating the inclusion of large numbers of people, which could hamper communication/decision making. The second alternative is to design a decentralized team concept with inservice teams in each district. This second alternative has the advantage of maximizing local specialization and management, but may eliminate broader funding possibilities and resources.

A multi-agency team approach to planning and implementing inservice is recommended. If local districts, state departments, and universities would pool their programmatic and financial resources, the probability of planning and delivering quality inservice should increase because of the enhanced resources.

IDENTIFYING INSERVICE NEEDS

The first task in identifying inservice needs is to determine the basic administrative unit for study, such as individual staff members, building level staff, district or cooperative level staff.

There are three basic approaches to conducting an inservice needs assessment.

The Structured Survey Instrument

It is sometimes helpful to develop a survey instrument based on previously agreed-upon competencies. The survey instrument might include any one of the following:

Survey interview,
Questionnaire,
Checklists, or
Observations.

The instrument can be completed by teachers, supervisors, administrators, and/or those they serve. Rankings of high, moderate, or low priority can be made for each item. The same instrument can be completed by an individual, either for himself/herself or for another target group. For example, a special education teacher can assign priorities for himself/herself, his or her colleagues, or other groups, such as regular teachers or principals. *Inservice needs should be validated by comparing the perceived needs of teachers, supervisors, administrators, parents, and students.*

The Open-Ended Questionnaire

A second instrument is an open-ended questionnaire on which a person might list the three inservice activities which would benefit the individual, his/her colleagues, or other groups. The advantage of an unstructured approach is that the personnel have the opportunity to express what they feel they need most.

A Combination Open-Ended and Structured Questionnaire

In many cases it is helpful to first administer an open-ended questionnaire in order to have the target group express their concerns. The responses can then be collated into a master list and made into a structured questionnaire which would then be rank ordered.

CONSIDERATIONS IN PLANNING INSERVICE TRAINING PROGRAMS

Knowledge of content does not necessarily guarantee the ability to deliver effective inservice training. Quality inservice programs are dependent upon:

Personnel who know how to teach others,
The creative use of instructional models for conducting inservice training,
The flexible use of dissemination strategies, and
The wise use of incentives for making inservice participation attractive to staff members.

The next section will describe some of the factors which should be considered by those who have the responsibility for delivering inservice training.

Identifying Key Training Personnel

Four major resources for identifying key personnel for delivering inservice training are the local education agency, universities, the Illinois State Board of Education, and professional organizations and parent groups.

Every local education agency has a number of knowledgeable personnel who are capable of leading inservice sessions. Unfortunately, most of these individuals do not advertise their expertise, and it is often necessary to seek them out and convince them that they have something special to offer. Regular classroom teachers, special education personnel, supervisors, administrators, and parents should be identified and actively recruited for the inservice effort. These competent, but modest, people represent a resource which no educational agency can afford to waste.

Universities are noted for having staff members with knowledge of content areas. Some university personnel lack experience in translating their theories and approaches into operating procedures which can be applied in our schools. This situation can be alleviated or avoided by mutual agreement between university and school personnel about the purpose of the inservice training, the specific skills each participant needs to learn, the physical arrangements necessary to conduct the workshop, and the evaluation and feedback procedures. University personnel can also be used as a source for content, readings, and course work for credit.

The Illinois State Board of Education is an excellent resource for identifying inservice workshop leaders in the schools. Information about inservice programs and planning from the Media Centers and Regional Service Agencies can be obtained from the Illinois State Board of Education. Advisement relative to inservice activities is one of the functions of state office staff and should not be overlooked as a resource.

Professional organizations and parent groups, such as the Illinois Teachers of the Hearing Impaired, Illinois Parents of the Hearing Impaired, Illinois Association of the Deaf, the Council for Exceptional Children, and the Illinois Alliance for Exceptional Children and Adults, are viable sources for identifying potential inservice workshop resources. Local chapters, state divisions and national groups may have other suggestions.

Instructional Models for Inservice Training

There are a number of models which can be used to conduct inservice training. Chief among these are:

Visits to local demonstration centers,
Workshops which emphasize participant involvement with follow-up sessions,
Competency training on-site,
Classroom observations,
Periodic seminars,
Programs where personnel are exchanged between programs or agencies,
Retreats, and
Role playing.

Dissemination Strategies

Information about new methods and techniques or changes in rules and regulations may be communicated through filmstrips, videotapes, demonstration teaching, newsletters, public media, conferences, brain-storming and sessions which would permit staff or individuals to explore areas of concern. The format for conducting workshops depends, of course, on the content to be presented. Nevertheless, there are a number of factors to be considered, such as the behavioral objectives for the participants, the sequence of events and timeline, descriptions of individual and group activities, supplies, audio-visual equipment, handouts, space, arrangement of chairs and tables, and workshop evaluation forms.

Incentives for Inservice Participation

The principle of reinforcement applies to teachers as well as to students. College credit, credit on the pay scale, released time, personal leave, visitation days, paid expenses, stipends, or public recognition may be used to encourage teachers to

attend inservice activities. Regardless of the specific form it takes, teachers who take the time and effort to improve their competencies should be rewarded in some way. Public Law 94-142 requires the use of incentives to insure the participation of personnel in inservice training.

TARGET GROUPS FOR INSERVICE TRAINING

In order to deliver quality services to hearing impaired students, it is necessary to expand the concept of inservice recipients to include the Illinois State Board of Education Staff, universities, boards of education and nonpublic facilities staff, instructional personnel, diagnostic staff and non-instructional staff, parents, and community services.

Individuals from each of these target groups have an important role in providing effective programs for learning disabled children. More importantly, individuals from each of these groups must work together to provide quality programs. Inservice training can assist each target group in staying current, increasing competency, and understanding each other's interrelated roles and functions.

Illinois State Board of Education

Communication between the Illinois State Board of Education and local education agencies is an important priority for all parties concerned. The channels for communication which have been established provide the mechanical means for sending and receiving messages.

University Personnel

Inservice for university personnel should focus on an increased communication network between the university, the parents and the professionals in the field at the local and state level. Local education agencies are the consumers of the research completed and the teachers trained in institutions of higher education.

University personnel need to be aware of the range and type of handicapped students who are being served in the field today and the kinds of staff needed to serve them. Student teaching programs need to be developed cooperatively so that personnel will be experienced in the areas where jobs exist.

Universities have a unique opportunity to work with and train special education administrators in techniques for planning

and conducting inservice training at the local level. This should be done cooperatively if it is to be relevant and effective. There are a number of strategies which can be used to meet these needs:

Visiting, by university personnel, public and private school classrooms;

Involving university personnel on local school district committees relative to the development of programs for special education students;

Establishing procedures through Higher Education Advisory Committee (HEAC) for greater communication between field personnel and university personnel concerning needs on both sides, e.g. teacher training, certification, inservice needs, and state of the art;

Encouraging local school districts to cooperate more fully and more openly in field-based experience, e.g. student teaching, apprentice and internship, and child studies;

Establishing local and regional sharing meetings concerning direct services offered to students by universities and local districts; and

Involving field people with university personnel in developing course content.

School Boards

Local district boards of education continually make decisions which affect special education services. In order to make these decisions, school boards should be inserviced relative to the facts and various points of view surrounding the issues.

Five content areas to be considered for the inservice training of school boards are:

Awareness

Characteristics of the handicapped
Rights of the handicapped
Legislation
Moral obligations

Service alternatives
Legal issues
Litigation
Individualized education programs

Identification

Interpretation of Illinois regulations
Explanation of screening procedures

Diagnosis/Evaluation

Interpretation of Illinois regulations
The evaluation process
Placement procedures (Least Restrictive Alternative)
Due process procedures

Service Delivery

Interpretation of Illinois regulations
Program alternatives
Individualized education programs

Reassessment

Evaluating child progress
Evaluating program effectiveness and efficiency

Local Educational Agency Staff

During the past decade, federal and state legislation regulations have changed from year to year. Because local education agency staffs have many responsibilities and daily pressures, it is difficult to find time to stay abreast of current changes which occur at the federal, state and local levels. It is recommended, therefore, that inservice should be a continuous activity for superintendents, building principals, special education administrators, special education teachers, regular classroom teachers and pupils, and pupil personnel services from both public and nonpublic programs.

Inservice for these target groups may be delivered under the five major areas defined by Public Law 94-142: *awareness, identification, diagnosis/evaluation, service delivery, and*

reassessment. The sections which follow, when appropriate, have suggested content for inservice training for local educational agency staff in each of the five major areas.

ADMINISTRATORS

Awareness

Definition and description of handicapped children and youth

Legislation at state and federal levels

Illinois Rules and Regulations

Rights of Handicapped
- Moral Issues
- Cost Issues
- Legal Issues

Due Process

Litigation

Definition of effective inservice

Communication with staff

Identification

Knowledge of effective techniques and systems for identifying high risk students

Ability to recognize atypical behavior and refer appropriately

Diagnosis/Evaluation

Knowledge of criteria for effective case study evaluations

Role definitions of team members

Procedures for conducting effective and efficient multidisciplinary staffings

Skills for writing Individualized Education Programs

Maintenance of appropriate records

Service Delivery

Knowledge of procedures for supervising service delivery models

Knowledge of methods for improving communications among staff, parents, and administrators

Ability to work appropriately and effectively with support personnel and multidisciplinary team

Ability to work effectively with a citizen's advisory council

Ability to analyze Individualized Education Programs

Ability to decide and discriminate line and staff responsibilities at the local district and joint agreement level so that appropriate people are contacted and involved at each level

Knowledge of techniques and methods appropriate for children with special needs

Knowledge of techniques for preparation and delivery of inservice

Reassessment

Knowledge of effectiveness of three-way communication process between teachers, parents and administrators

Knowledge of techniques in program evaluation, e.g. evaluation comparing past to present services and projecting future needs and services

Knowledge of techniques in facilitating special education teacher accountability and evaluation procedures

REGULAR CLASSROOM TEACHERS

Awareness

Knowledge of all areas of exceptionality

Knowledge of diagnostic instruments/tests typically used

Knowledge of the Illinois special education regulations as they apply

Knowledge of referral process for children who demonstrate learning problems and/or fail hearing screenings

Knowledge of resources available

Knowledge of various kinds of hearing problems and their causes

Identification

Recognize speech, language and hearing problems both in and out of the classroom

Recognize atypical behavior and refer appropriately

Describe observable behavior and learning problems in writing

Diagnosis/Evaluation

Ability to administer and interpret appropriate standardized, and/or informal tests in communication modes and language levels understood by the child

Ability to identify strengths and weaknesses in children's learning styles

Use of informal tools helpful in the identification and assessment of academic strengths and weaknesses

Develop teaching skills appropriate to the needs of the hearing impaired

Service Delivery

Use principles for organizing a classroom for individual or small group instruction

Apply behavior management techniques

Use support personnel effectively

Use instructional media appropriately

Evaluate, construct, and adapt teaching materials

Adapt teaching techniques to information known about how a particular child learns

Write Individualized Education Programs

Learn effective communication techniques and share these with regular pupils

Use auditory training equipment if necessary for the full implementation of a child's individualized educational program

Cooperate with special education personnel who may be a necessary aid to the full realization of a hearing impaired child's education

Reassessment

Understand and use pre-post formal and informal data

Understand staffing/review process and teacher's role in it

SPECIAL EDUCATION TEACHERS

Awareness

Knowledge of regular classroom organization, structure, curriculum, teaching practices and styles

Knowledge of normative behavior at each age level

Knowledge of hearing impairments and their implications on the learning style of hearing impaired youth

Knowledge of pupil personnel services and community resources

Knowledge of Illinois special education rules and regulations

Identification

Knowledge of and skill with identification techniques

Ability to describe observable behavior in writing

Diagnosis/Evaluation

Ability to interpret available psycho-educational tools

Conduct evaluations (formal and informal data) covering: oral language, reading, written language, sign language, speechreading, spelling, writing, math, personal and social adjustment

Design and write Individualized Education Programs

Interpret results of evaluations to parents, teachers, children, administrators, and other staff members

Service Delivery

Use options in classroom organization

Implement and adapt a range of behavior management techniques with individuals and groups

Implement and adapt new and effective teaching techniques

Learn effective communication/leadership techniques

Develop competency in the use of media (including audio-visual equipment, i.e. auditory training systems)

Develop diagnostic teaching skills

Develop effective mainstreaming techniques and maintain close communication with regular classroom teachers

Develop longitudinal recommendations relative to special education programming/services, preschool through high school (including pre-vocational and vocational needs)

Develop "total communication" skills appropriate to the learning style of the child when required in an individualized education program

Reassessment

Skills in measuring students' progress by formal and informal methods

Skills in interpreting, utilizing and reporting student progress data

PUPIL PERSONNEL SERVICES

Awareness

Knowledge of regular and special education class organization, curriculum, curricular materials, teaching practices and styles

Working knowledge of the Illinois special education rules and regulations

Knowledge of normative behavior at each age level

Knowledge of other pupil personnel services and community resources including parent groups

Knowledge of characteristics of exceptional children

Knowledge of continuum of services for special education, preschool through high school

Familiarity with tests and informal tools used by other disciplines

Identification

Ability to identify atypical behavior and hearing difficulty and refer appropriately

Develop interdisciplinary identification and communication skills

Diagnosis/Evaluation

Skill in evaluation techniques in the appropriate discipline

Skills in understanding, relating to and utilizing other disciplines on the case study evaluation team

Service Delivery

Coordinate service delivery with other disciplines

Develop communication skills

Reassessment

Utilize pre-post formal and informal data to insure effective, ongoing educational programs

Understand staffing/review processes and be contributing members

NON-INSTRUCTIONAL STAFF AND VOLUNTEERS

Awareness

Knowledge of characteristics of exceptional children

Knowledge of first-aid techniques and other medical implications

Identification

Special training for particular roles related to the identification process

Ability to handle confidential information appropriately

Service Delivery

Understand and use functional behavior management techniques

Perform record keeping duties

PARENTS

Parents are the first and natural educators of their children. They have the primary responsibility for their children and, therefore, are usually the first to recognize a problem. Parents are also the natural and necessary partners to the school in the diagnostic and educational process. They are in the unique position of having contact with the children in the home and with community agencies, as well as with the school. Parents can often fill a unique role in coordinating and forming a communication bridge between community services and the school.

There is a need and mandate for inservicing the parents of handicapped students relative to special education programs. Parents vary in their needs. Some parents are informed and willing, others uninformed and unwilling.

Programs need to be designed to reach all parents and particularly those who are having difficulty understanding their children's needs and/or functioning in school. These suggestions are meant to serve as possible alternatives. The content for inservice for parents of diagnosed hearing disabled students might include:

General information about:

- Special education referral procedures and parents' roles
- Students' and parents' rights
- Special education services
- Community resource services
- Professional resources within the schools
- Political avenues for coordinating action
- Special education parent groups, local and state
- Parent responsibilities

Specific information about:

- The nature of hearing impairments
- The effect of the handicap on their child
- Effective methods for communicating with school personnel
- Homework problems/When and how to help

Parents of hearing impaired students often need a vehicle through which to share their frustrations, anger, and failures with their handicapped children. Plays, discussion groups and concrete suggestions are among the techniques which may help parents share their feelings and find helpful suggestions. It can be helpful to specifically include siblings in these experiences. Book discussion groups, cassette speeches, libraries of appropriate games and parent effectiveness training groups are other possible techniques.

Many parents appreciate contact with other more experienced parents to share on a more personal level their feelings and information about local parent or professional resources. Parents need to hear from professionals that their guilt feelings, frustrations and anger, if they have them, are natural reactions with which they can cope, if given help. These experiences can be fostered by schools, parent groups, or community agencies.

Parents can provide several unique kinds of inservice experiences for school personnel. They are in a position to help the school develop an awareness of and empathy for the effects of the child's handicap in the home. Parent/school personnel discussion groups or parent advocates may assist school personnel in understanding the problems and frustrations parents have in cooperating with certain requests. Gentle honesty and simple behavioral descriptions, instead of judgments and jargon, are some of the attributes parents find helpful in school personnel.

Parents have a unique perspective on the child's handicap and can provide school personnel with a validity check on diagnostic findings and presumed strengths and weaknesses. Parents are often also a rich resource for problem solving with their child. They have sometimes found ways of coping with the child's disability which the school can also use.

Finally, parents offer a unique point of view on program development. They are often aware of unusual social and academic needs of students and can provide administrators with suggestions for program content or organizational change.

Community Services

There is a need for articulation, communication and information sharing between human services in the community and the school. Inservice to community services may help avoid duplication of services rendered and confusion because of conflicting information disseminated to parents. It may also have the positive effect of better service to the child and realistic, consistent recommendations to the parents regarding educational decisions. Community service organizations should include such groups as:

State or Federally Funded Organizations

Department of Mental Health (DMH)
Law enforcment agencies
Youth service or guidance personnel
Department of Children and Family Services (DCFS)

General Community Resources

Medical professional (physicians, psychiatrists, etc.)
Volunteer organizations (Boy Scouts, YMCA, etc.)
Fraternal and service organizations (Rotary, Kiwanis, Lions) American Business Clubs, i.e. Sertoma, Exchange Club, etc.
Preschools, nurseries, day care centers.

The content for inservice for these groups might include such things as:

Awareness of State and Federal laws, plus rules and regulations for special education.

Awareness of school services for the handicapped.

Role of community services in identification and referral of exceptional children. This should include specific information about the referral procedures.

Information on the academic, social/emotional, physical, behavioral aspects and implications of hearing impairments.

Awareness of and provisions for ongoing open lines of communication and coordination between home, school and community services.

EVALUATING THE EFFECTIVENESS OF INSERVICE TRAINING EFFORTS

An evaluation component must be built into any inservice plan in order to provide information about the effectiveness of inservice training activities. Such an evaluation requires initial baseline information about the competencies or knowledge of each individual receiving inservice training. After the inservice training is completed, a post-instruction measure should be effected and compared with the baseline information. For example, it would be possible to count the number of parental contacts made by teachers before and after an inservice program which focused on "The Importance of Increased Parental Contact." Another technique for measuring effectiveness is the comparison of

the number and variety of problem-solution alternatives written by a trainee before and after training.

It is helpful to get immediate positive and negative reactions to inservice sessions through questionnaires. However, it is dangerous to assume that a positive or negative reaction to any one session is an index of behavioral change. Therefore, it is important to combine both an immediate and a long-term feedback process to ascertain data on the permanency of changes in attitude and behavior.

In conclusion, inservice training should serve as a catalyst for improving the quality of service for hearing impaired students and can do so if it is multifaceted, ongoing and targeted to all relevant groups.

Special thanks is conveyed to the 1975-76 Illinois Office of Education Task Force on Learning Disabilities for granting permission to the 1977 Steering Committee on Hearing Impaired to adapt the inservice chapter in the *Learning Disabilities Manual: Recommended Procedures and Practices.*

GLOSSARY

1. **Acoustics** — The qualities of a room, hall, auditorium, etc. that determine how well sounds can be heard. (Refer to Appendix H).

2. **Audiogram** — A graphic record of an individual's acuity of hearing as measured by an audiometer, showing for each ear and at different tone frequencies, the hearing loss in decibels or units of hearing loss from which the sensitivity for hearing may be calculated.

3. **Audiologist** — Specialist in the non-medical evaluation, habilitation and rehabilitation of those language, speech and hearing disorders (communicative disorders) which center, in whole or in part, in the hearing mechanism. This individual is professionally trained to administer and interpret hearing evaluations.

4. **Audiology** — The science of hearing, particularly the function of the hearing mechanism.

5. **Audiometer** — A precision electronic instrument for measuring hearing acuity.

6. **Auditory Training** — Special techniques which are utilized by educators of the hearing impaired or other trained professionals, in order to assist hearing impaired students with the identification and understanding of meaningful auditory patterns and qualities of sound. The child learns or re-learns to use any remnant of residual hearing. Amplification via group and/or individual hearing aids usually assists in this habilitation process.

7. **Auditory Training Unit** — Specially designed electronic equipment for the hearing impaired. It amplifies speech and other sounds using a microphone/transmitter, via an FM (radio frequency band) or hard wire electrical system which connects to receivers and hearing aid earphones for auditory reception of sound signals or messages. It provides greater amplification than a student's individual hearing aid and channels sound more directly to the student.

8. **Calibration** — Determination or rectification of the scale of measurement electrically generated by an audiometer.

9. **Clarity** — How clear sounds are heard and interpreted by the listener.

10. **Conductive Hearing Loss** — A hearing loss characterized by damage or obstruction of the auditory canal, tympanic membrane (ear drum), or ossicular chain (ear bones in the middle ear). This particular kind of ear pathology can often be treated, with good prognosis, by antibiotics or surgery.

11. **Congenital** — Present at birth.

12. **Deaf** — Those in whom the sense of hearing is non-functional for the purpose of ordinary communication by means of hearing with or without amplification.

13. **Decibel (db)** — Unit for measuring the loudness of sounds.

14. **Fingerspelling** — Method of communicating by means of the manual alphabet (words spelled out on the fingers).

15. **Frequency (Hz-Hertz)** — The number of vibrations or cycles per second of a sound wave.

16. **Hard of Hearing** — Those in whom the sense of hearing, although defective, is functional to some degree with or without a hearing aid, for the purposes of language acquisition and communication.

17. **Hearing** — Commonly (but not adequately) defined as the perception of sound. For diagnostic purposes, a distinction must be made between the function of the end-organ (ears) in receiving, analyzing, and transmitting; and the function of the cortex in meaningful sound-symbol association. Consequently, it is useful to define hearing as the function of the auditory end-organ, including the radial fibers of the eighth nerve system in the "auditory cortex."

18. **Hearing Impaired** — A term used to refer to persons who suffer a loss of hearing whether it is mild, moderate, severe or profound; to include those sometimes referred to as hard of hearing, partially hearing, deaf or deafened.

19. **Hearing Screening** — A group or individual test of hearing through which children may be selected for further study and audiometric testing.

20. **Intensity** — The strength of the vibrations of a sound wave; measure of the quantity of sound energy.

21. **Interpreter** — A specially trained individual who either interprets (conveys a spoken message to a hearing impaired individual at the appropriate language ability level via sign language and fingerspelling) or translates (verbatim signing and fingerspelling of a spoken message) in educational learning situations.

22. **Manual Communication** — Method of communicating by means of natural gestures, formal signs, facial expressions, fingerspelling and body language.

23. **Otologist** — Specialist in the medical and surgical diagnosis and treatment of the ear.

24. **Receptive Communication** — Receiving (visually and/or auditorily) and understanding that which another person expresses.

25. **Residual Hearing** — The hearing that is left after injury or illness which causes a loss of hearing. A child who is born deaf usually has some residual hearing which may be stimulated in order to assist the child in his educational development.

26. **Sensorineural Hearing Loss** — A hearing impairment characterized by pathology in the inner ear (cochlea) or somewhere along the VIIIth cranial nerve.

27. **Sign Language** — Natural or formal sign system through which units of thought can be communicated.

28. **Speech Audiometer** — An audiometer which tests the hearing of speech rather than the auditory reception of pure tones. Speech for testing is produced in either of two ways depending on the apparatus used: by speaking into a microphone or by electrical pickup from a phonograph record.

29. **Speechreading** — The process of understanding what is said by another person via facial movements, i.e. the facial muscles, the lips, tongue, jaw, etc.

30. **Threshold** — The audiometric level at which an individual first perceives sound.

31. **Total Communication** — An educational approach which focuses on linguistic development and concomitant conceptual, academic, social and emotional development utilizing all available modes of communication including manual communication, speech, audition, pictorial representation and printed symbol.

APPENDIX A

STATE AND NATIONAL SERVICE REFERENCES

ALEXANDER GRAHAM BELL ASSOCIATION FOR THE DEAF

Alexander Graham Bell Association for the Deaf
1537 35th Street, N.W.
Washington, DC 20007

Founded in 1890, the AGBAD promotes the teaching of speech, speechreading, and the use of residual hearing to those whose hearing is impaired. The Association acts as a clearinghouse to disseminate information concerning methods of teaching speech and speechreading.

PUBLICATIONS: VOLTA REVIEW

CAPTIONED FILMS AND TELECOMMUNICATIONS

Captioned Films and Telecommunications Branch
Bureau of Education for the Handicapped
U.S. Office of Education
Washington, DC 20202

Provides a loan service of captioned theatrical and educational films to organizations of and for the hearing impaired. Also active in TV captioning and the development of various types of educational media.

PUBLICATIONS: Catalog of Captioned Films

CENTER ON DEAFNESS

Center on Deafness
600 Waukegan Road
Glenview, Illinois 60025

Founded in 1973 to provide variety of services to the deaf and their families.

PUBLICATIONS: CENTER DIALOGUE

CONFERENCE OF EXECUTIVES OF AMERICAN SCHOOLS FOR THE DEAF, INC.

Conference of Executives of American
Schools for the Deaf, Inc.
5034 Wisconsin Avenue, Northwest
Washington, DC 20016

Founded in 1868 to promote the management and operation of schools for the deaf along the broadest and most efficient lines, promote the welfare of the deaf, and promote the professional growth of teachers of the deaf.

DUES: Vary from $65 to $115 annually depending on enrollment in school; for programs contributing services to education of the deaf — $35 annually; association membership for $10 a year.

PUBLICATIONS: AMERICAN ANNALS OF THE DEAF. Subscription rate is $12.50 yearly.

DEAFNESS RESEARCH FOUNDATION

Deafness Research Foundation
366 Madison Avenue
New York, New York 10017

Founded in 1958 to organize a major effort to learn the causes and to seek improved means of treatment and prevention of deafness and other ear disorders. Also supports the Temporal Bone Banks Program.

PUBLICATIONS: THE RECEIVER

DEAFNESS RESEARCH AND TRAINING CENTER

Deafness Research and Training Center
New York University
80 Washington Square East
New York, New York 10003

The Center was founded in 1966 to improve the delivery of services to deaf persons through research and training activities. Current research includes telecommunications, visual displays, models for effective delivery of rehabilitation services, population surveys and employment problems. The Center also prepares professionals to work with deaf people.

Founded in 1966 to provide advanced degree programs, workshops for professionals and the deaf community, and research projects on a variety of problems in deaf rehabilitation.

PUBLICATIONS: THE COMMUNICATOR
THE DEAF AMERICAN
Research monographs are provided on request.

GALLAUDET COLLEGE ALUMNI ASSOCIATION

Gallaudet College Alumni Association
Office of Alumni and Public Relations
Gallaudet College
7th & Florida Avenue, Northeast
Washington, DC 20002

Founded in 1889 to preserve and increase the influence and prestige of Gallaudet College, promote the welfare of the deaf, perpetuate the friendships formed during college life, and provide social and fraternal relations among alumni of different college generations. Membership is open to alumni of Gallaudet College, but most chapters accept non-alumni as social members.

PUBLICATIONS: GALLAUDET ALMANAC
GALLAUDET ALUMNI NEWSLETTER

ILLINOIS ASSOCIATION OF THE DEAF

Illinois Association of the Deaf
547 Circle
Pleasant Plains, Illinois 62677

Founded in 1894 to promote the educational, social, and economic welfare of the hearing impaired, both locally and in connection with the National Association of the Deaf. Among the many services of the IAD are: advocating fair employment, combating legislation interfering with the rights of hearing impaired people, supporting legislation benefiting the hearing impaired, donating manual communication books to schools and libraries, conducting an annual community leadership training program.

DUES: $14.00 for husband and wife
$ 8.00 for an individual (for two years)

PUBLICATION: STATE-WIDE BULLETIN

ILLINOIS PARENTS OF THE HEARING IMPAIRED

Illinois Parents of the Hearing Impaired
1036 West 5th Street
Belvidere, Illinois 61008

PUBLICATION: Newsletter

ILLINOIS REGISTRY OF INTERPRETERS FOR THE DEAF

Illinois Registry of Interpreters for the Deaf
178 West Randolph
Chicago, Illinois 60601

Organized in 1965 to upgrade quality of interpreters, maintain a list of qualified interpreters, teach new persons to be interpreters. In addition, provides two major workshops each year on issues concerning interpreter services, conducts two National RID interpreter evaluation tests per year, and provides interpreters upon request.

DUES: $5.00 annually

PUBLICATION: Newsletter

ILLINOIS TEACHERS OF THE HEARING IMPAIRED

Illinois Teachers of the Hearing Impaired
John F. Kennedy Center
420 Raynor
Joliet, Illinois 60435

The ITHI was established to share and exchange ideas, news and information of interest and importance to teachers and other professionals serving the hearing impaired in Illinois.

DUES: $8.00 annually

PUBLICATIONS: Newsletter

NATIONAL ASSOCIATION FOR HEARING AND SPEECH ACTION

National Association for Hearing and Speech Action
814 Thayer Avenue
Silver Spring, Maryland 20910

Established in 1919 to promote the interests of persons with hearing

and speech handicaps and related disorders by means of enlightened public understanding, stimulation of consumer advocacy, director assistance to hearing and speech agencies, extension and upgrading of services, fostering needed social action, and launching a program of prevention.

PUBLICATIONS: HEARING & SPEECH ACTION
WASHINGTON SOUNDS

NATIONAL ASSOCIATION OF THE DEAF

National Association of the Deaf
814 Thayer Avenue
Silver Springs, Maryland 20910

The NAD was founded in 1880 to bring the deaf of different sections of the U.S. in close contact and to deliberate on the needs of the deaf as a class; to promote the deaf's unique needs in legislation, education, communication, health, research, taxes, rehabilitation; and to fight discrimination in insurance and employment. The Association is also a clearinghouse of books and information relating to deafness and owns their own office building. Membership is open to anyone interested in its program.

PUBLICATIONS: THE DEAF AMERICAN
Sent to members and subscribers ($6.00 a year).
THE BROADCASTER
A newspaper which may be subscribed to for $4.00 (if a NAD member) or $6.00 (if a non-member).

DUES: $15.00 annually for individuals
$25.00 annually for husband and wife
$35.00 annually for a family.

REGISTRY OF INTERPRETERS FOR THE DEAF, INC.

Registry of Interpreters for the Deaf, Inc.
Post Office Box 1339
Washington, DC 20013

Founded in 1964 to professionalize interpreting and educate the public about the interpreting process and services available. The RID has biennial conventions, disseminates information to state chapters and has a certification program to evaluate and certify interpreters. Membership is open to professional interpreters and all persons interested in

supporting the activities.

DUES: $10.00 annually

PUBLICATIONS: INTERPRETERS

TELECOMMUNICATORS OF CENTRAL ILLINOIS

2333 Noble Avenue
Springfield, Illinois 62704

Founded in 1974 to provide telephone typewriter (TTY) machines and service to all areas in Central Illinois.

INITIATION FEE: $10.00

DUES: $ 5.00 annually

TELECOMMUNICATIONS FOR THE DEAF, INC.

Telecommunications for the Deaf, Inc.
814 Thayer Avenue
Silver Spring, Maryland 20910

TDI was founded in 1968 to: coordinate the distribution of surplus teletypewriters to deaf persons; work with sources of acquisition; and develop telephone communication among the deaf.

ENROLLMENT: $5.00 initial

DUES: $5.00 annually

PUBLICATIONS: International TTY Directory and Supplement, annually, plus "GA-SK" newsletter.

NATIONAL FRATERNAL SOCIETY OF THE DEAF

National Fraternal Society of the Deaf
1300 West Northwest Highway
Mt. Prospect, Illinois 60056

Founded in 1901 by a group of young deaf adults to provide low-cost insurance protection being denied to deaf persons at that time. A fraternal insurance company managed exclusively by deaf people, the NFSD is licensed in 36 states and Canada, with a membership in excess of 12,000 and assets close to $7,000,000. The Society is also

active in efforts to protect the right of the deaf to drive and obtain auto insurance; eliminate discrimination in employment; assure deaf children receive a good education; and guarantee the deaf their full legal rights as citizens. Membership is open to deaf adults with hearing impairments, hearing persons involved with the deaf, and to children with a hearing impairment, as well as the hearing children and grandchildren of members.

There are divisions in Springfield, Jacksonville, Peoria, Rockford and Chicago.

PUBLICATIONS: THE FRAT. Free to members and $1.50 to non-members who wish to subscribe.

APPENDIX B

ILLINOIS TEACHER TRAINING UNIVERSITIES AND/OR COLLEGES PREPARING EDUCATORS OF THE HEARING IMPAIRED

Dr. Mickey Jones, Coordinator
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MacMurray College
425 East State Street
Jacksonville, Illinois 62650

Chirin Antia, Coordinator
Northern Illinois University
Departments of Learning and Development
Hearing Impaired Program
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College of Education
Education and Communication Building
Chicago, Illinois 60680

Dr. Robert Rittenhouse, Assistant Professor and Coordinator
Illinois State University
Department of Specialized Educational Development
Fairchild Hall
Room #312
Normal, Illinois 61761

APPENDIX C

POST SECONDARY FACILITIES FOR THE REFERRAL OF HEARING IMPAIRED YOUTH

Note: For a comprehensive listing, and for information on program options, it is advisable to secure a copy of the booklet: *A Guide to College/Career Programs for Deaf Students* (free) from Gallaudet College or the National Technical Institute for the Deaf.

Gallaudet College
Kendall Green
7th and Florida Avenue, Northeast
Washington, DC 20002

St. Paul Technical Vocational Institute
Program for Deaf Students
235 Marshall Avenue
St. Paul, Minnesota 55102

Northern Illinois University
Program for Hearing Impaired
DeKalb, Illinois 60115

William Rainey Harper College
Hearing Impaired Program
Palatine, Illinois 60067

North Central Technical Institute
Program for the Hearing Impaired
100 Schofield Avenue
Wausau, Wisconsin 54401

National Technical Institute for the Deaf
One Lomb Memorial Drive
Rochester, New York 14623

Waubonsee Community College
Hearing Impaired Program
Sugar Grove, Illinois 60554

St. Louis Community College
at Florissant Valley
Program for Hearing Impaired
3400 Pershall Road
St. Louis, Missouri 63135

APPENDIX D

MENTAL HEALTH PROGRAMS FOR HEARING IMPAIRED CHILDREN IN THE UNITED STATES

Mental Health Program for the Deaf
Forest Hospital
555 Wilson Lane
Des Plaines, Illinois 60016
312/635-4100; Ext. 236

Napa State Hospital
Children's Center
Box A
Imola, California 94558
707/255-6760; Ext. 548

Western State Hospital
Deaf Program
Post Office Box 2550
Staunton, Virginia 24401
703/886-2345 (Admission age 14)

St. Paul-Ramsey Medical Center
Mental Health Program for the Hearing Impaired
640 Jackson Street
St. Paul, Minnesota 55101
612/221-3761 (Admission age 12)

Maryland School for the Deaf
P.O. Box 894
Columbia, Maryland
301/465-9611

P.S. 47 - School for the Deaf
225 East 23rd Street
New York, New York 10010

Institute of Logopedics
2400 Jordine
Wichita, Kansas
316/262-8271

Rockland County Psychiatric Center
Mental Health Services for the Deaf
Orangeburg, New York 10962
(Inpatient program in conjunction with the New York State School for the Deaf in White Plains.)

Psycho-Educational Center
Beverly School for the Deaf
6 Echo Avenue
Beverly, Massachusetts 01915
617/927-2996

APPENDIX E

STEERING COMMITTEE ON HEARING IMPAIRED

Dr. William Johnson, Supt. (Chairman)
Illinois School for the Deaf
125 Webster Avenue
Jacksonville, Illinois 62650
217/245-5141

Sharon Eakin, Teacher
Holy Trinity School
1910 West Taylor
Chicago, Illinois 60612

Sharon Boyd, Supervisor
Williamson County Special Education
School for Hearing Impaired
East Boulevard
Marion, Illinois 62959

Dorothy Eulass, Administrator
Regional Hearing Impaired Program
Low Incidence Cooperative Agreement
8257 West Harrison Street
Niles, Illinois 60648
312/679-7950

Phyllis Winter, Head Teacher
Holy Trinity School
Classes for the Hearing Impaired
1910 West Taylor
Chicago, Illinois 60612

Harriet Kavin
3404 Mapleleaf Drive
Glenview, Illinois 60025
312/272-8261

Donald and Dee Hlavacek
4 North 701 Osage Drive
St. Charles, Illinois 60174
312/377-0383

Robert Anderson, Associate Principal
Illinois School for the Deaf
125 Webster Avenue
Jacksonville, Illinois 62650

Sandy Tracy, Teacher
Illinois School for the Deaf
125 Webster Avenue
Jacksonville, Illinois 62650

John Jun, Coordinator
Hearing Impaired Program
John F. Kennedy Center
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Joliet, Illinois 60435

Joann Stephans, Assistant Professor
Illinois State University
Department of Specialized Educational Development
Fairchild Hall
Normal, Illinois 61761
309/438-5146

Sandy Hayward, Assistant Director
Center on Deafness
600 Waukegan Road
Glenview, Illinois 60025

Donna Delaney
Regional Special Education Association
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Marion, Illinois 62959
618/997-3434

Ann Russell, Coordinator of the Deaf
Chicago Board of Education
Room 660
228 North LaSalle
Chicago, Illinois 60601
312/641-4154

Lolita Bacon, Coordinator of the Hard of Hearing
Chicago Board of Education
Room 660
228 North LaSalle
Chicago, Illinois 60601
312/641-4157

APPENDIX F

TASK FORCES ON THE HEARING IMPAIRED

I. Identification, Diagnosis and Assessment

Chairperson - Hazel Bothwell
1011 Edgehill Road
Jacksonville, Illinois 62650

Beth Hebert
Regional Hearing Impaired Program
Low Incidence Cooperative Agreement
8257 West Harrison Street
Niles, Illinois 60648

James Nelson
Department of Public Health
535 West Jefferson
Springfield, Illinois 62701

Dr. Barry Jones
University of Illinois
901 South 6th Street
Champaign, Illinois 61820

Betsy Lease, Coordinator
Communication Disorder Program
South Metropolitan Association
250 West Sibley Boulevard
Dolton, P.O. Harvey, Illinois 60426

II. Appropriate Educational Environment for Children

Chairperson - Peter Seiler
National Technical Institute for the Deaf
Rochester Institute of Technology
Rochester, New York

Henry Widmer
Illinois School for the Deaf
125 Webster
Jacksonville, Illinois 62650

Dr. Stanley T. Bristol, Director
Northern Suburban Special Education District
Stratford Center
760 Red Oak Lane
Highland Park, Illinois 60035

III. Children and Family Support Services

Chairperson - Valerie Feldman
Michael Reese Hospital and Medical Center
David T. Siegel Institute for Communicative Disorders
3033 South Cottage Grove Avenue
Chicago, Illinois 60601

Jan and Lee Hoglind
829 North Spring Avenue
LaGrange Park, Illinois 60525

Dr. Kenneth Moses
Suite 116
778 Frontage Road
Northfield, Illinois 60202

Mary Lou Hudson
74 Shirlwin Drive
Granite City, Illinois

IV. Personnel Development

Chairperson - Thomas Butterweck, Director
Diagnostic Services
Illinois School for the Deaf
125 Webster
Jacksonville, Illinois 62650

Patricia McAnally, Assistant Professor
Illinois State University
Department of Specialized Educational Development
Fairchild Hall
Normal, Illinois 61761

Dr. Mickey Jones
Hearing Impaired
MacMurray College
Jacksonville, Illinois 62650

Dr. Patricia Scherer, Director
Center on Deafness
600 Waukegan Road
Glenview, Illinois 60025

Barbara Kilani
Arizona State School for
the Deaf and Blind
P.O. Box 5545
Tucson, Arizona 85703

Barry Weiss
Certification and Placement
Illinois State Board of Education
100 North First Street
Springfield, Illinois 62777

V. Roles of Various Schools and Agencies

Chairperson - Lloyd Lehman
9301 North Keating
Skokie, Illinois 60076
312/679-7950

Ruth Cohen
Holy Trinity Day Classes for
the Hearing Impaired
1910 West Taylor
Chicago, Illinois 60612

Robert Griffith
Department of Rehabilitation Services
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Springfield, Illinois 62701

Ronald Anderson
Dixon State School
Speech and Hearing Services
Illinois Department of Mental Health
2600 North Brinton Avenue
Dixon, Illinois 61021

Edward Scott
Assistant Superintendent
Illinois School for the Deaf
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Jacksonville, Illinois 62650

VI. Program Standards and Evaluation

Chairperson - Dr. Maryln O'Neil
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Marion, Illinois 62959

Dr. Aileen Parker, Director
Williamson County Special Education District
Box 39
Marion, Illinois 62959

NOTE: Special recognition is given to Gail Lieberman, Terry Bourret and other Illinois State Board of Education staff who spent many hours working with both the Steering Committee and Task Forces in this major planning effor

APPENDIX G

Differences Between Means of Expected Performance (E) and Actual Performance (A) of Hearing Impaired Subjects on Various Subtests of the Stanford Achievement Test

Hearing Threshold Level (Better Ear)	N	IQ	E-A Word Meaning	E-A Paragraph Meaning	E-A Language	E-A Subtest Average
Less than 15 db	59	105.14	-1.04	0.47	0.78	-0.73
15 to 26 db	37	100.81	-1.40	0.86	-1.16	-1.11
27 to 40 db	6	103.50	-3.48	-1.78	-1.95	-2.31
41 to 55 db	9	97.89	-3.84	-2.54	-2.93	-3.08
56 to 70 db	5	92.40	-2.78	-2.20	-3.52	-2.87

An analysis of this table reflects the following results. First, for every subtest in every hearing level category, actual performance was lower than expected performance. Second, there was a steady regression in retardation on each subtest through the various hearing threshold categories with the exception of the last category where only the language subtest maintained the progression.

The data indicate that the subjects were not achieving in school at a rate commensurate with their educational potential. It is assumed that such differences between expected and actual performance was due to hearing impairment. (Adapted from "The Relationship of Hearing to Learning." Dr. Stephen Quigley, University of Illinois.)

APPENDIX H

ROOM ACOUSTICS EVALUATION FOR CLASSROOMS FOR THE HEARING IMPAIRED

Room acoustics is a major variable in the education of hearing impaired children, but this factor has received little attention. In the past, teacher preparation, selection of suitable group amplification systems and the audiological evaluation of children with hearing loss have been emphasized as prime considerations in the development of educational programs for hearing impaired youngsters. Yet, there is good evidence that a child's abilities to develop auditory language and to understand speech are adversely affected by either excessive noise or reverberation, that is, the persistent reflection of sound within a classroom. It must be kept in mind that such distracting sounds within the classroom will be amplified to very high levels by either group amplification systems or the child's hearing aid. As a consequence, the pupil's most efficient sensory channel for learning language is overpowered by extraneous noise. In turn, the resultant lag in language learning fosters a corresponding deficiency in academic achievement.

A pilot study of eleven classrooms for the hearing impaired located in the north-northwest Chicago suburbs was completed. Each educational environment was evaluated in terms of its ambient noise level and its acoustical treatment. Further, the apparent sources of the objectionable noise were determined. Upon completion of this study, each classroom was categorized as Acceptable, Acceptable with Correction, or Unacceptable. In brief, it was found that only one classroom out of eleven presently provides an acceptable acoustic learning environment for hearing impaired children. Six classrooms were judged to be in need of additional acoustic treatment before qualifying for a rating of Acceptable. Finally, four rooms were found to be unacceptable for the use intended. In these latter four cases, it appeared that the costs involved in the upgrading of these rooms to an acceptable category would be prohibitive.

In view of the magnitude of the problems encountered in the eleven classrooms under study, the following guidelines were formulated to assist school personnel in the selection of existing classrooms to be designated for the teaching of hearing impaired children. However, it should be stressed that such guidelines are not an adequate substitute for formal electro-acoustic measurements such, as the determination of ambient noise levels. Such electro-acoustic measurements can be completed upon request by the regional audiologists throughout Illinois.

The three major problems encountered during the pilot project were related to:

A. Noise generated by activities and sound sources *adjacent* to the classroom under study;

B. Noise generated from activities and sound sources *within* the classroom under study;

C. Limited acoustic treatment of wall, ceiling and floor surfaces *within* the classroom under study.

With respect to noise generated by sources adjacent to the classroom, the following problems were frequently encountered during the study.

Problem 1: The classroom was located in the immediate vicinity of concentrated student activities occurring in areas, such as major hallway junctions, water fountains and rest rooms.

Problem 2: The classroom was located adjacent to instructional areas including other classrooms and teaching centers with minimal sound isolation. Such items as folding walls, doors with ventilation ducts, loosely fitting doors, internal glass partitions and suspended ceilings with a continuing air space above all rooms were identified as major problems.

Problem 3: The classroom was located in the vicinity of high level "noise" activities, such as band, orchestra and chorus. (In this particular study, no room was located near the cafeteria, gymnasium, heating plant, shop or playground.)

Unfortunately, the problems outlined above cannot be alleviated without major structural alterations which tend to result in excessive cost. In such instances, it is usually more feasible to relocate the classroom for the hearing impaired.

As would be expected, a great deal of "noise" can be generated within a classroom by a group of active children. In addition, substantial interference can be generated by some types of room ventilation systems having self-contained fan units. Again, classroom amplification systems and/or hearing aids boost such sounds to unacceptable levels for many hearing impaired children. This situation forces youngsters with good potential for auditory learning to rely almost exclusively upon the visual channel for communication with the teachers and

peers. Consequently, the development of listening skills is substantially delayed. In practice, many children reject the use of amplification since the hearing aid and/or the auditory training does not serve as a source of assistance in the learning situation, but as a source of distraction and interference.

Problem 1: Substantial levels of noise are generated by the movement of children and furniture on hard surface floors.

Problem 2: Fan units in air circulation systems can create objectional noise levels when set to medium or high settings.

Unfortunately, intervention by an acoustic engineer is often needed to effectively reduce the noise produced by a unit air-ventilation system, such as discussed in Problem 2, above.

In contrast, Problem 1 can be effectively handled, in large measure, by the installation of a floor covering, such as a durable grade of indoor-outdoor carpeting with padding. In the present study, it was found that area rugs of limited size district effectively eliminate many sounds generated within the classroom.

The acoustical treatment of each classroom was carefully described, so that with the consultation of an acoustic engineer, the suitability of each room could be assessed with respect to parallel reflecting surfaces. Such reflecting surfaces result in the persistence of sound over time, which, in turn, creates a difficult listening situation for children with a hearing impairment.

There are at least four major considerations with respect to acoustical treatment:

1. Treatment of floor surface,
2. Treatment of ceilings,
3. Treatment of large expanses of glass,
4. Treatment of wall surfaces.

Before proceeding with a discussion of the problems actually encountered, it should be noted that the persistence of sound is related to how much or how little a sound is absorbed by a room's surfaces. In other words, a sound will persist over a much longer period of time in a room with many hard, smooth surfaces, such as vinyl tile floors, plaster or wood ceilings and walls, as well as large windows without drapes.

Of the eleven classrooms evaluated, only one was judged to be adequate. This specific room had an acoustical tile ceiling, wall-to-wall carpeting, and drapery. Further, the walls of this room had a sufficient

number of items, such as tack boards and book shelves as well as portable room dividers, effectively minimizing hard, opposing wall surfaces, which would result in the persistence of reflected sound.

Numerous problems were encountered in the remaining ten (10) rooms. For example, wall-to-wall carpeting was needed in six of the ten rooms. In three rooms, untreated ceilings resulted in excessive reflection of sound. The lack of drapery also was a potential problem in six rooms. Here it should be mentioned that while drapes are normally open, the folds of material serve to absorb sound. Finally, in five rooms, large, untreated opposing wall surfaces provided a potential problem.

In summary, the present pilot study highlighted three major problem areas: noise transmitted into the classroom from outside sources, noise generated within the classroom, and limited acoustic treatment of the room. Without attention to ambient noise and excessive reverberation in the classroom, one important variable in the education of hearing impaired children is overlooked. In the past a good deal of time and money has been invested in auditory training equipment and hearing aids. Yet, with an inadequate listening/teaching environment, the value of such instrumentation is limited. As a consequence, children with hearing loss cannot effectively utilize the auditory channel for learning. Of course, the greater the amount of usable residual hearing, the greater the impact of excessive noise in the classroom upon learning. This factor highlights a major consideration for future research: the hard of hearing child being considered for integration into a regular classroom which may have little or no acoustic treatment.

Project supported by Office of SLIDES
Data collected and analyzed by:
Michael A. Crum
Noel D. Matkin
Northwestern University, 1972

APPENDIX I

*THE CASCADE SYSTEM APPLIED TO SPECIAL EDUCATION

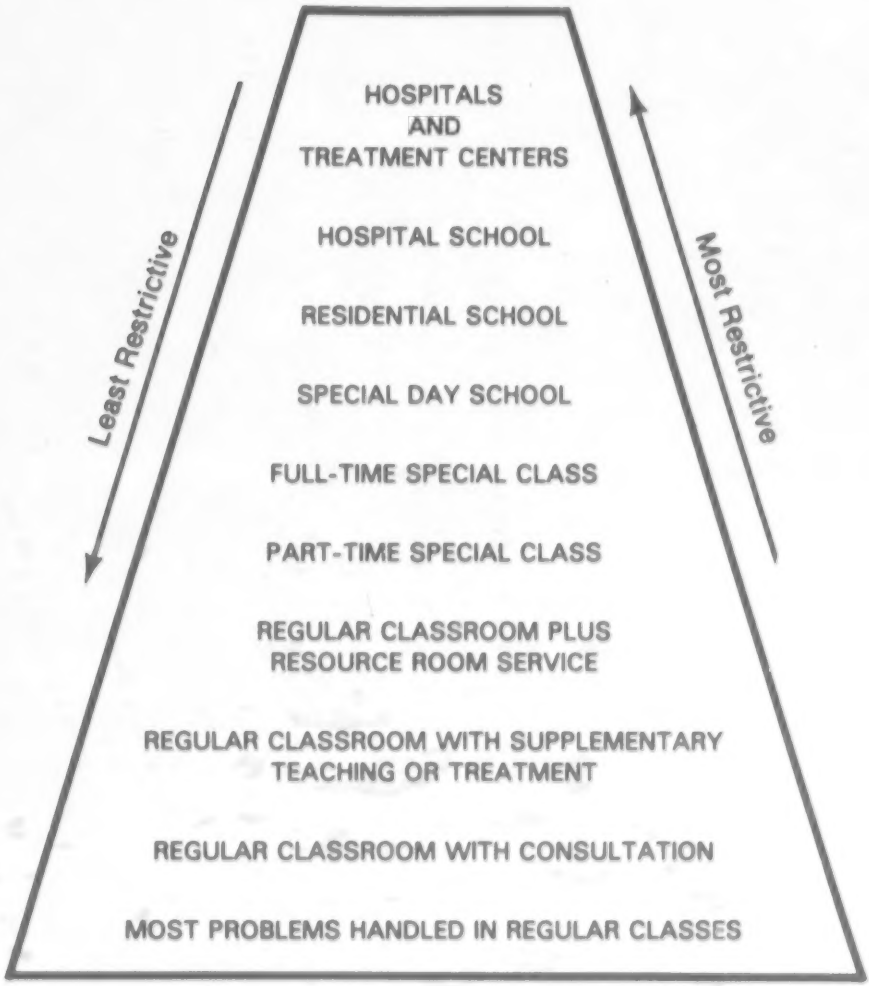

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Figure 8

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